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Fig. 1

The diagram illustrates a manufacturing process for a multi-layer mesh assembly. A substrate 1102 moves from left to right through a series of rollers and processing stations. At the top, a large dashed circle 1179 represents a source of material. The substrate 1102 passes through a roller 1162, then an adjustable roller 1121, and a pattern roller 1107. It then enters a transfer roller station 1115, which includes rollers 1111, 1113, 1114, and 1117. A glue application station 1120 is located between the transfer roller and the pattern roller. The substrate then passes through a coarse mesh wire roll 1104, a mid-mesh wire roll 1109, and a top mesh wire roll 1100. The final product is a multi-layer mesh assembly 1106, which is shown as a dashed line. The assembly consists of a top mesh 1100, a mid-mesh 1109, and a coarse mesh 1104, all of which are bonded to the substrate 1102. The rollers are labeled with 'M' for motor. The transfer roller is labeled with 'H' for heater. The adjustable roller is labeled with 'A' for adjustable. The pattern roller is labeled with 'P' for pattern. The coarse mesh wire roll is labeled with 'C' for coarse mesh. The mid-mesh wire roll is labeled with 'M' for mid-mesh. The top mesh wire roll is labeled with 'T' for top mesh.

Fig. 3

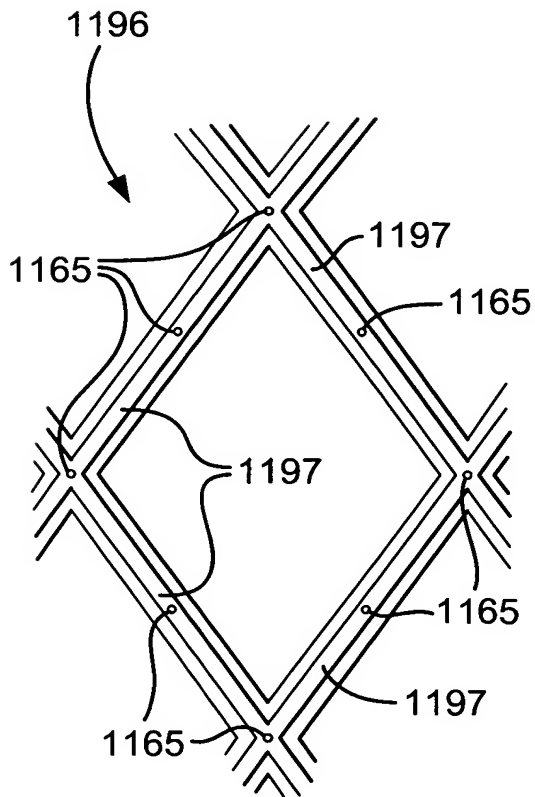
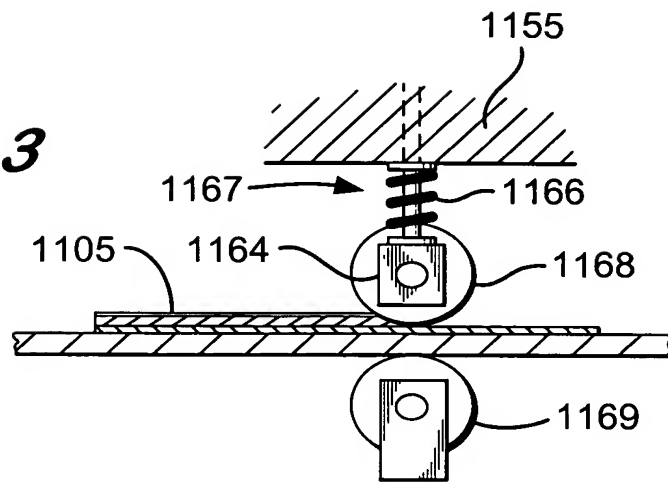
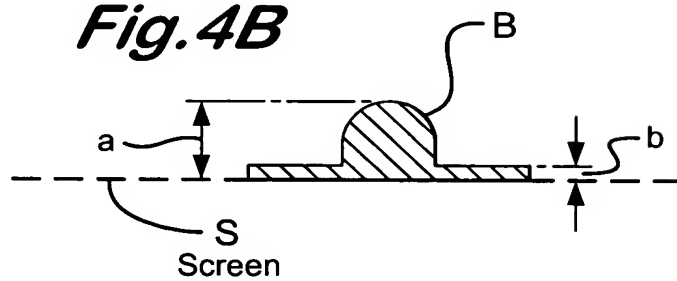


Fig. 4A

Fig. 4B



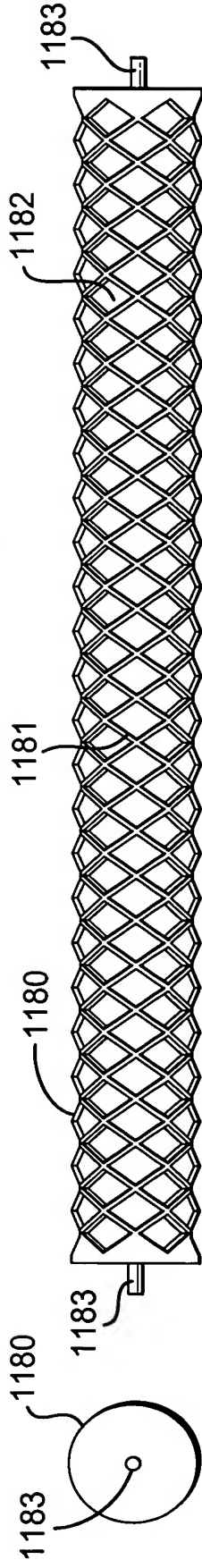


Fig. 5A

Fig. 5B

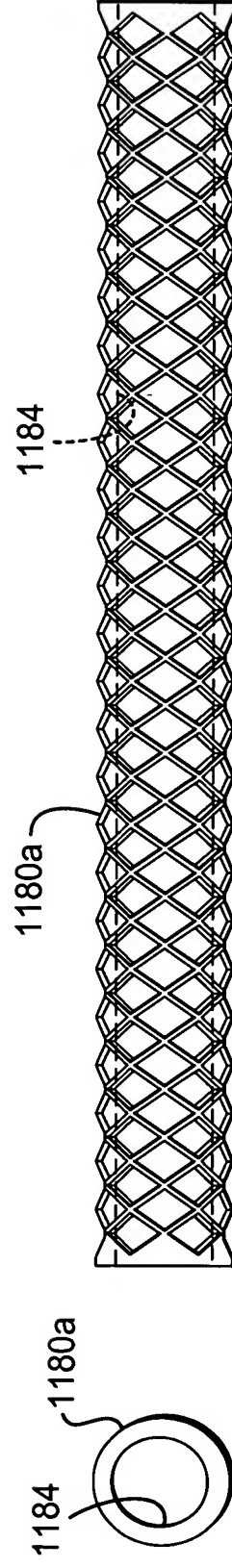


Fig. 6A

Fig. 6B

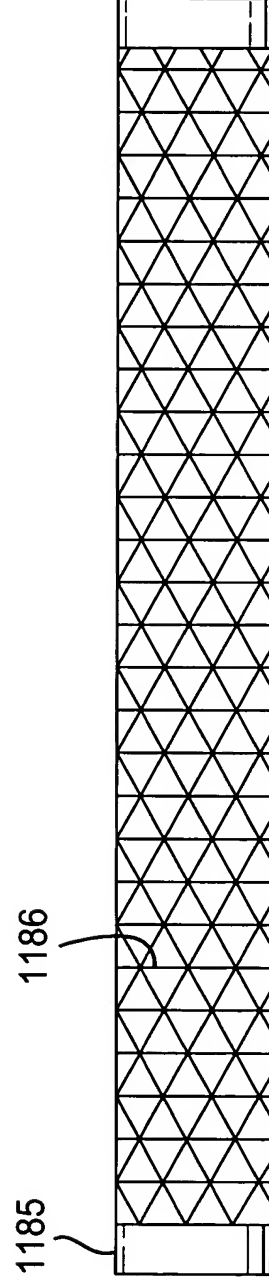


Fig. 7

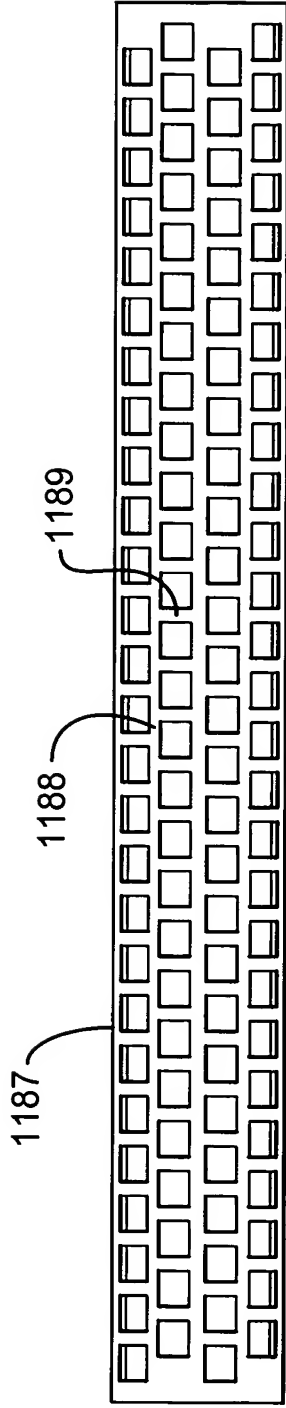


Fig. 8

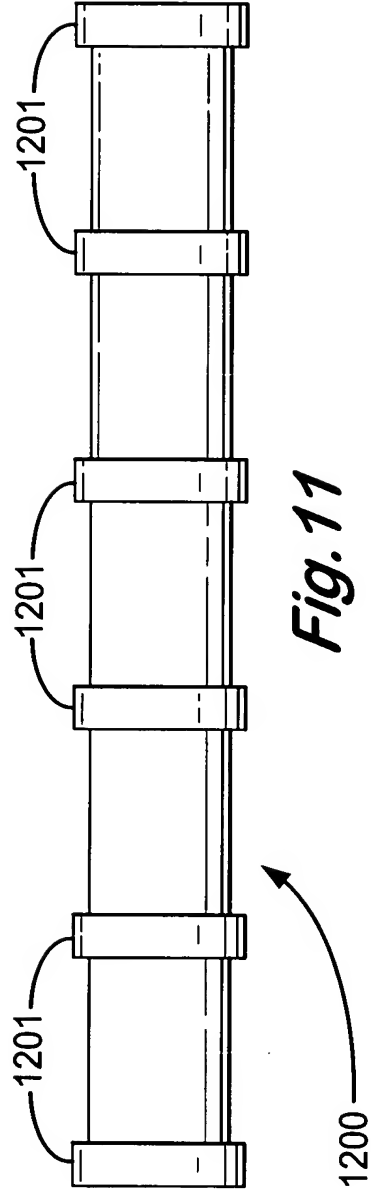


Fig. 11

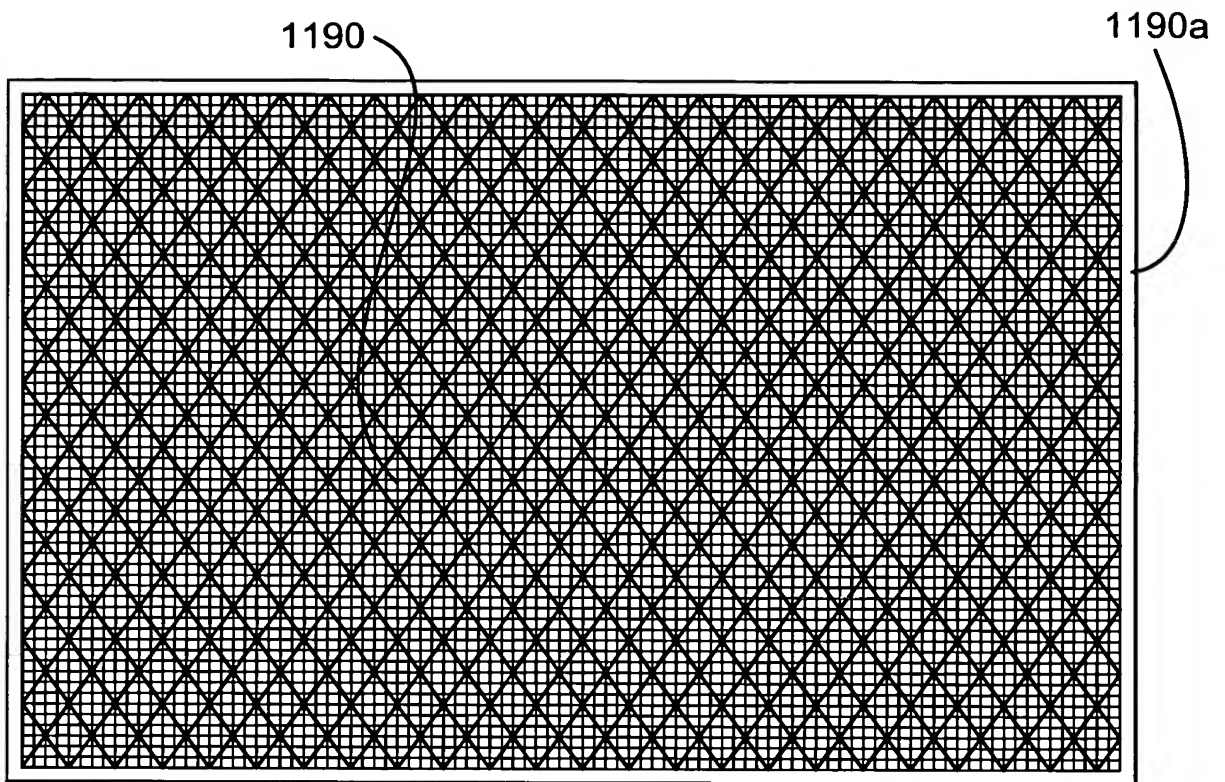


FIG. 9

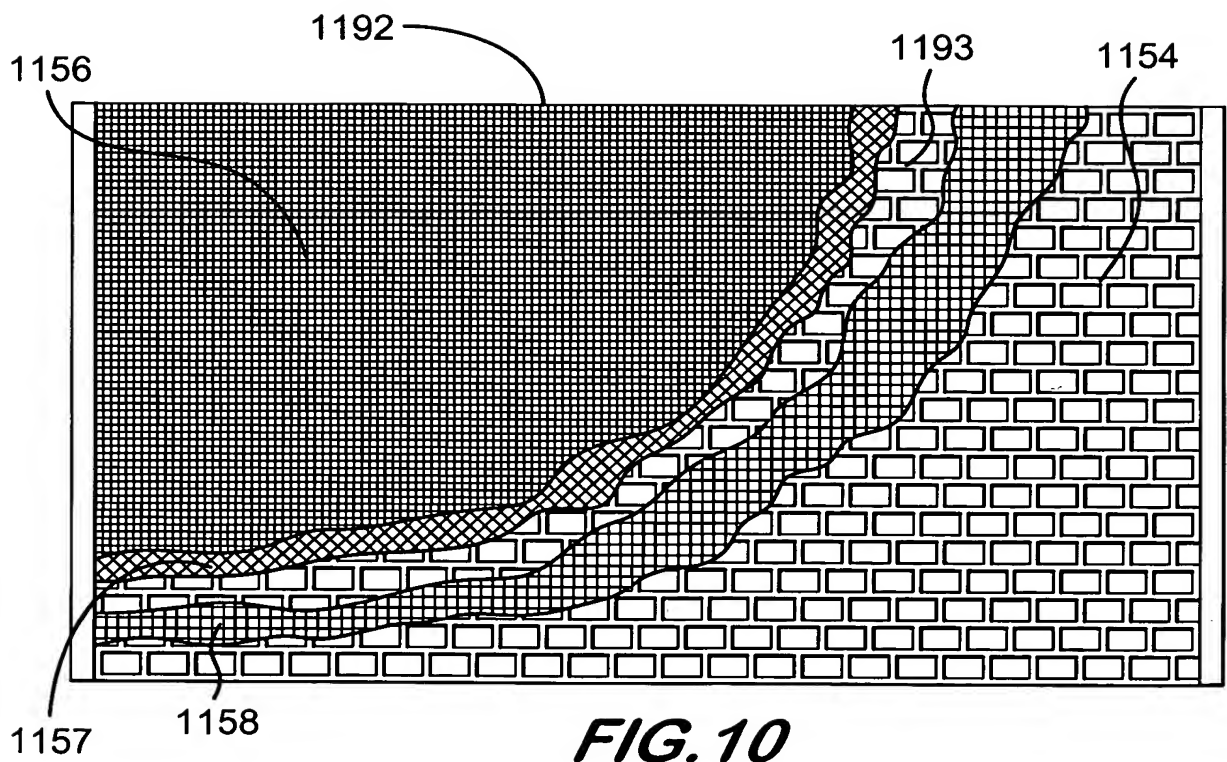
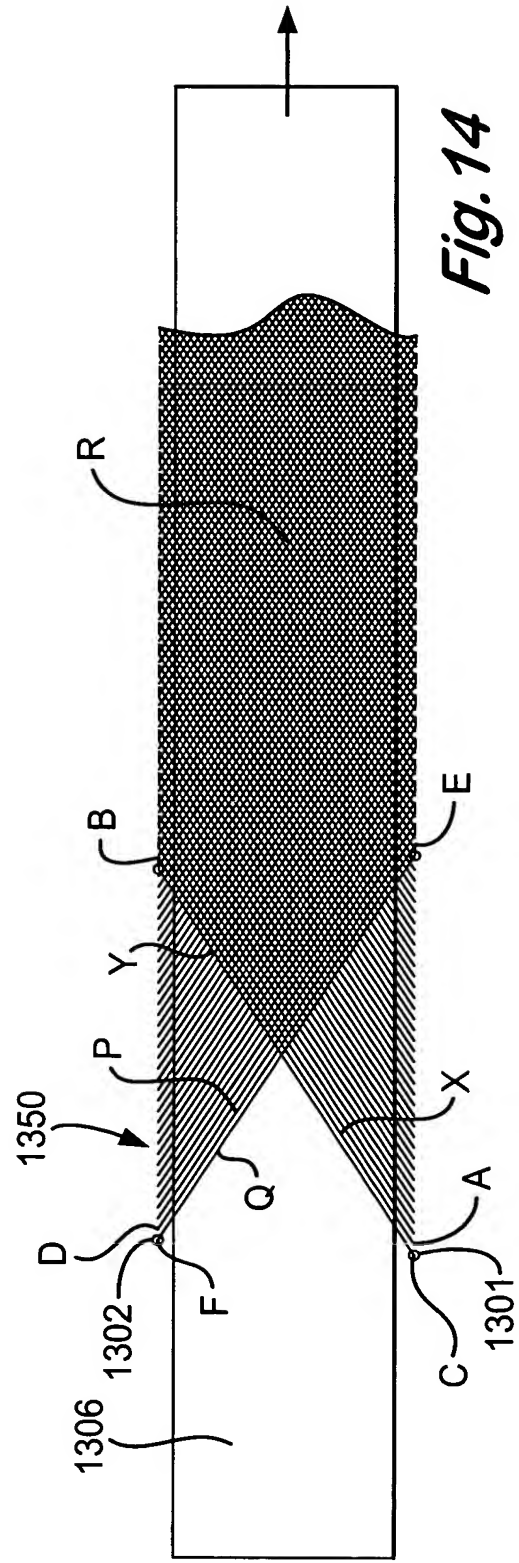
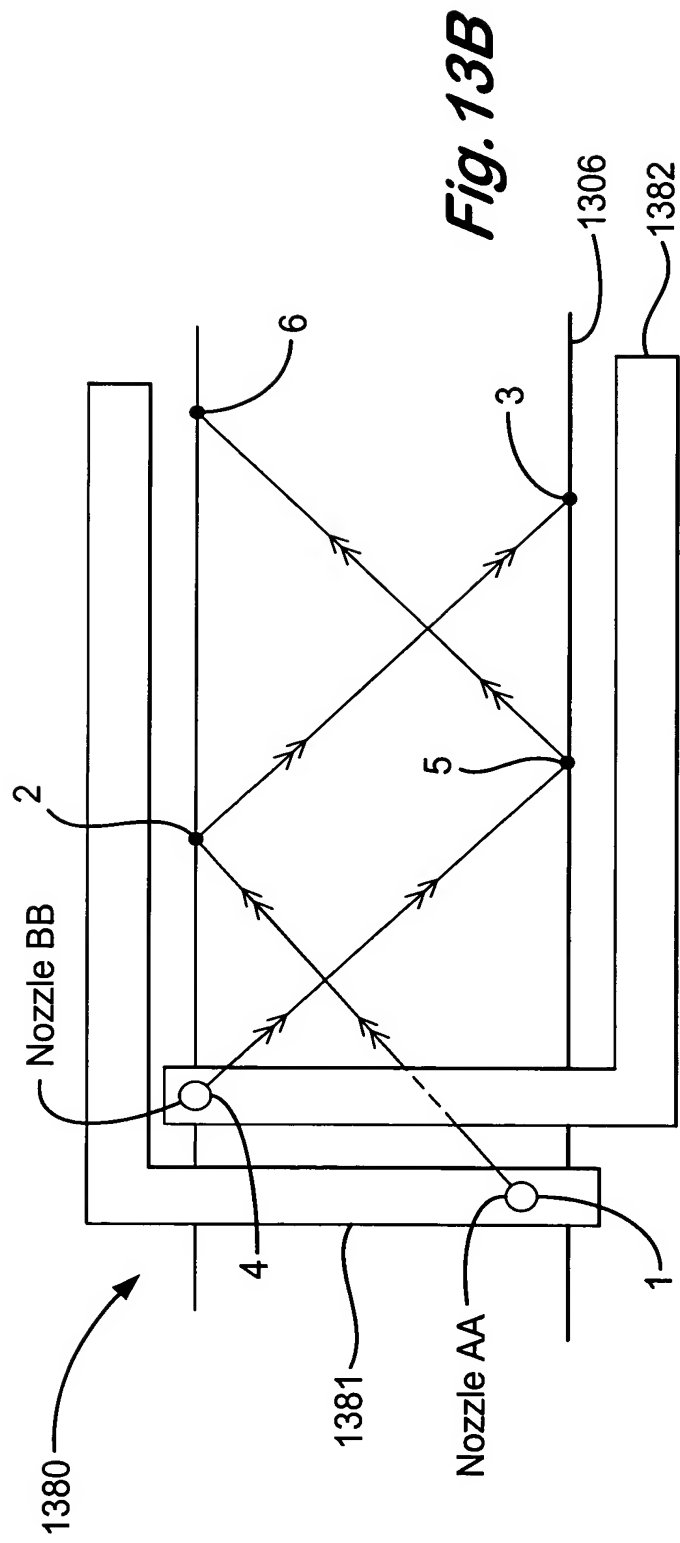


FIG. 10



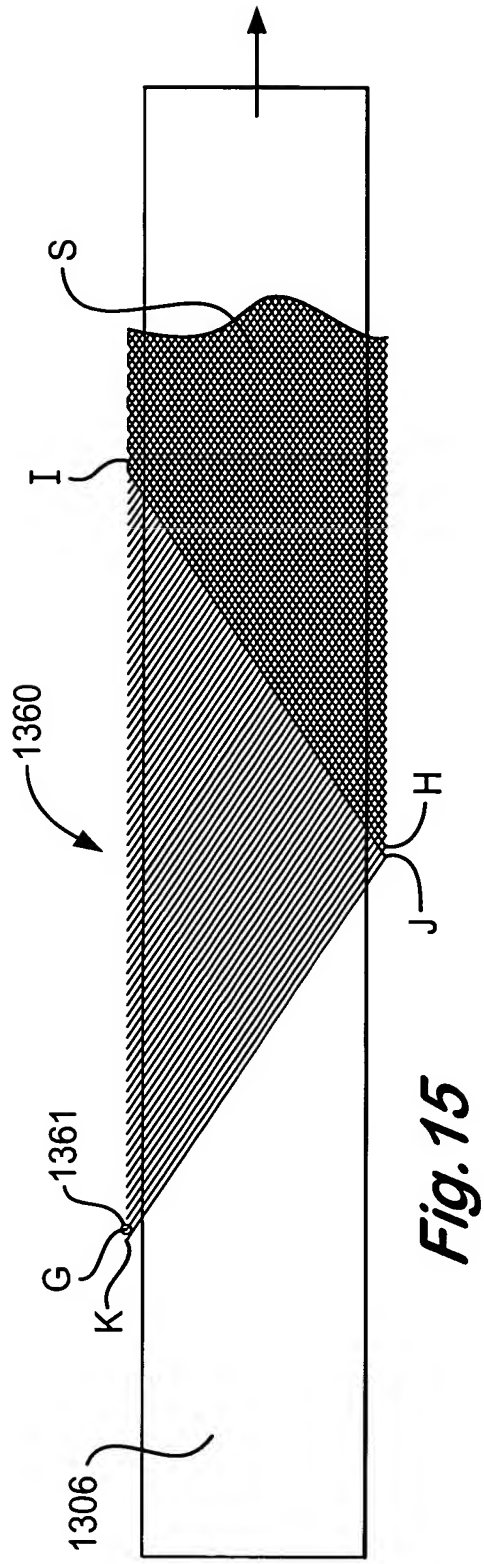


Fig. 15

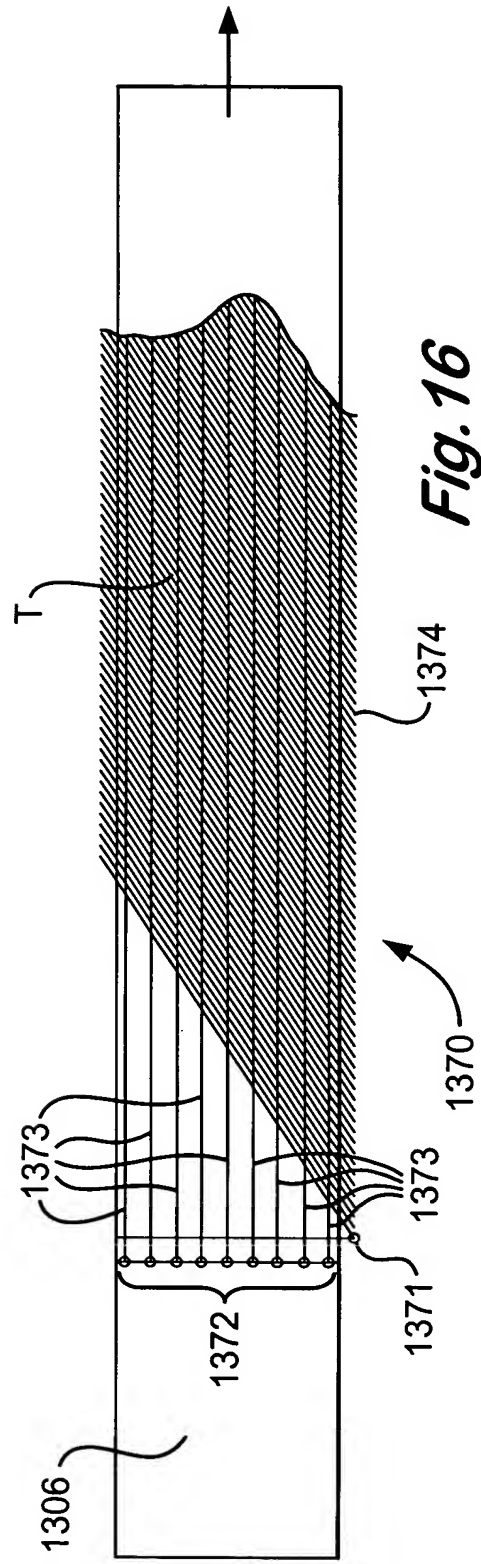


Fig. 16

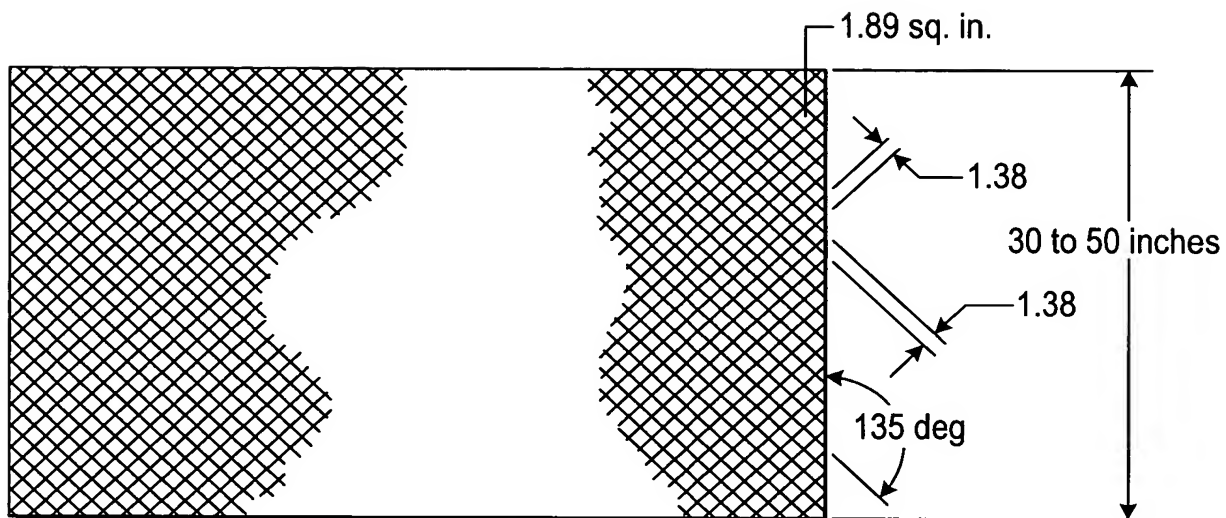


Fig. 17A

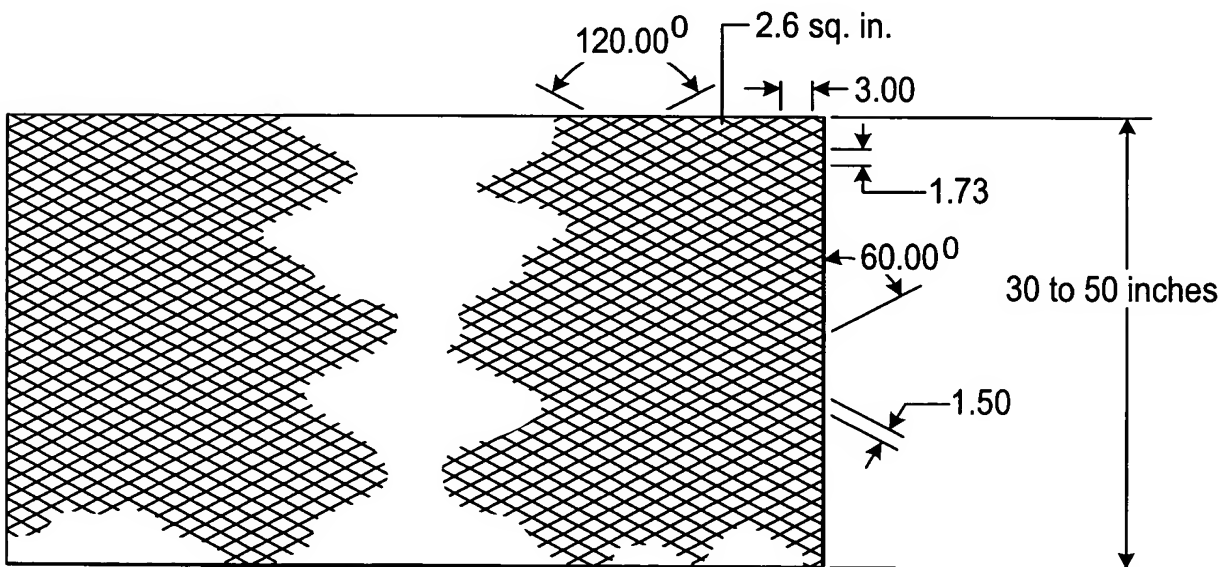
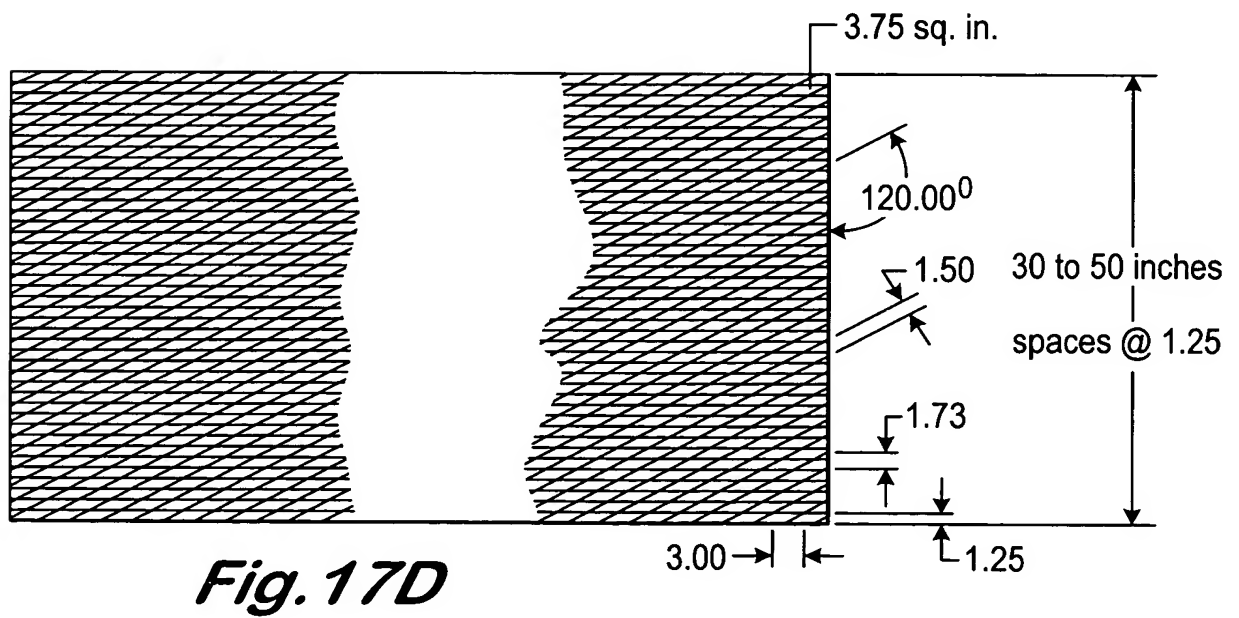
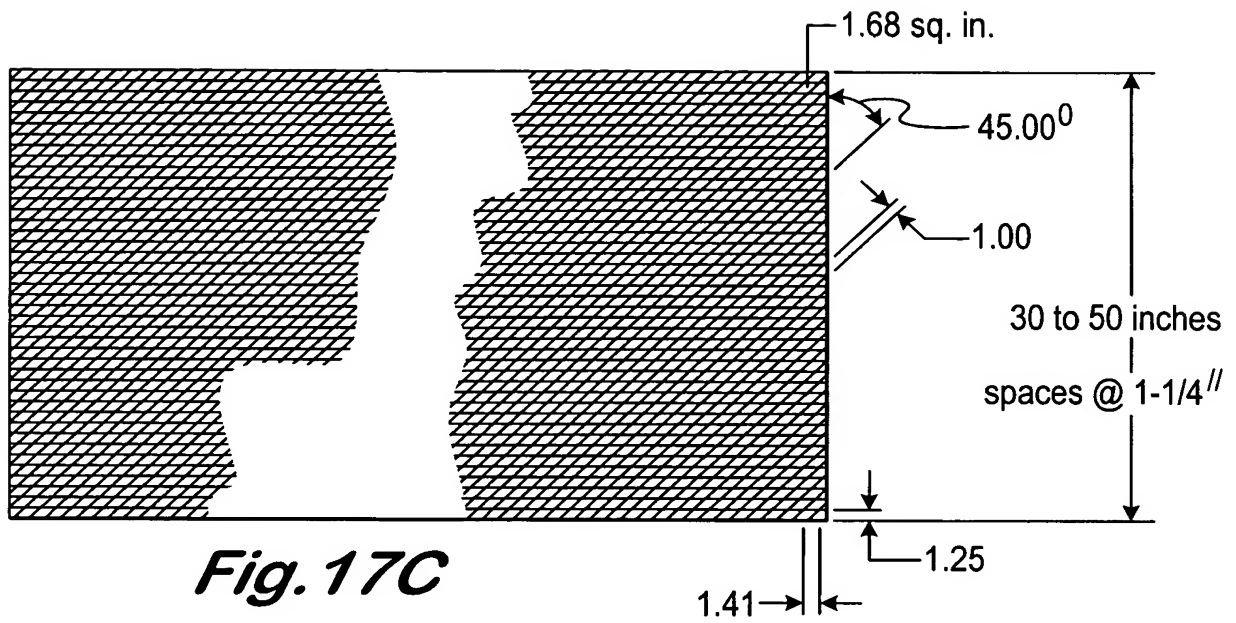


Fig. 17B



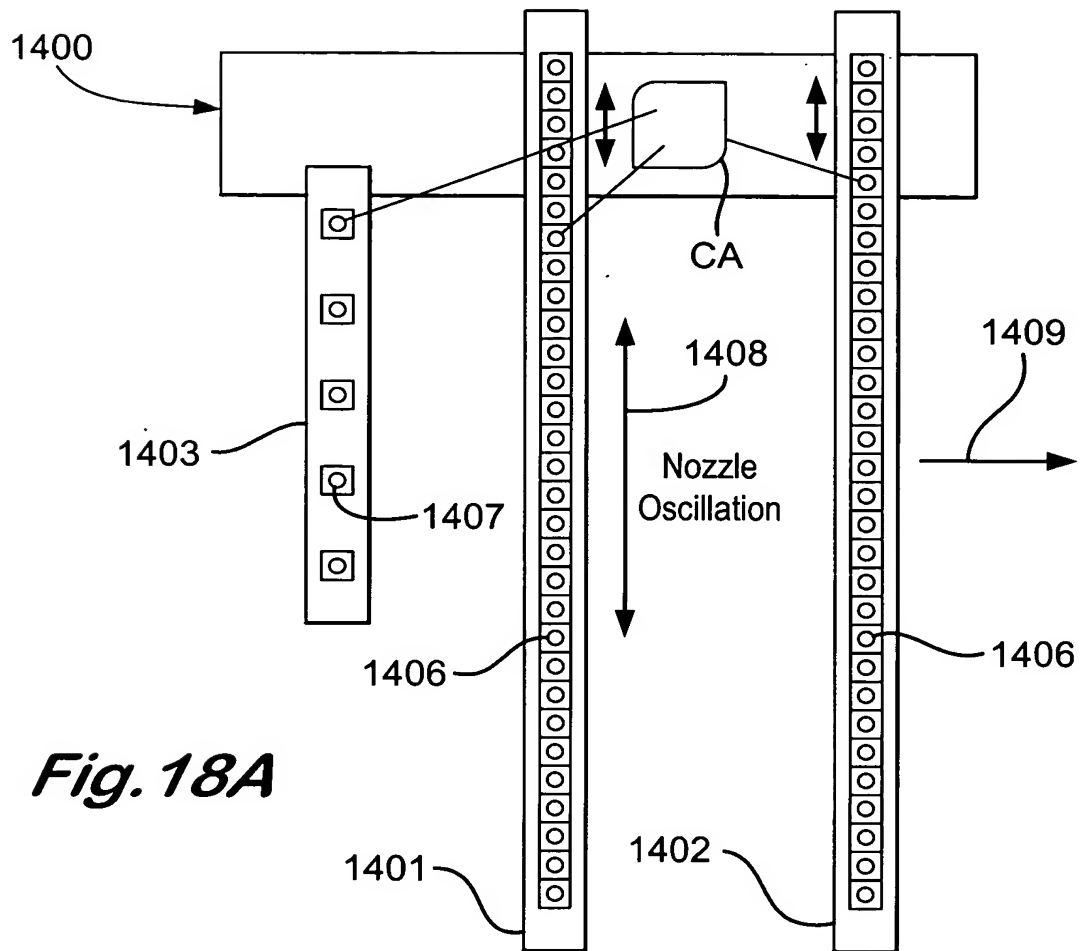


Fig. 18A

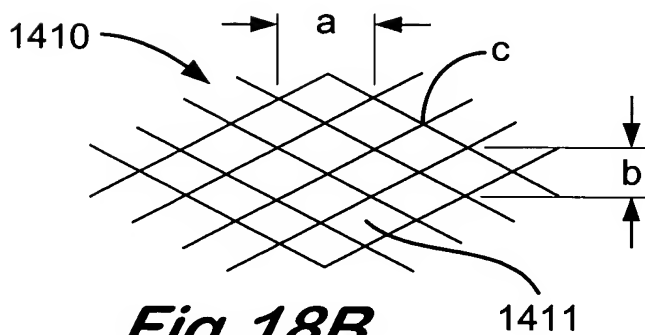


Fig. 18B

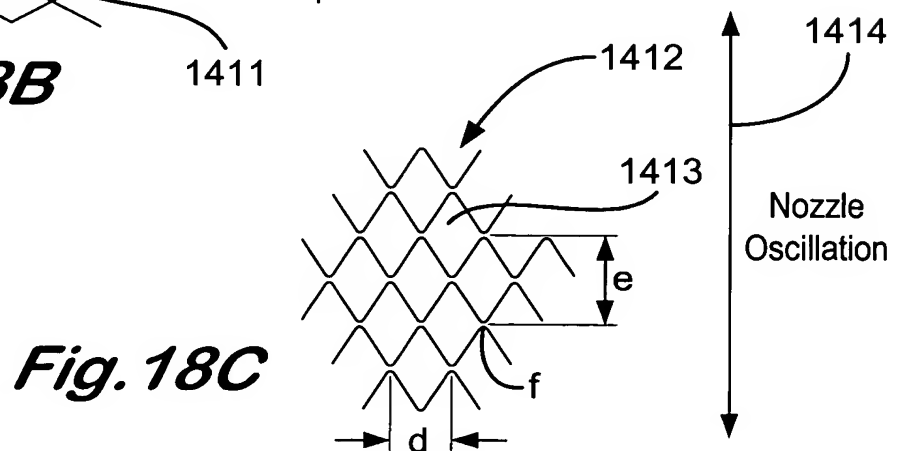


Fig. 18C

Fig. 19A

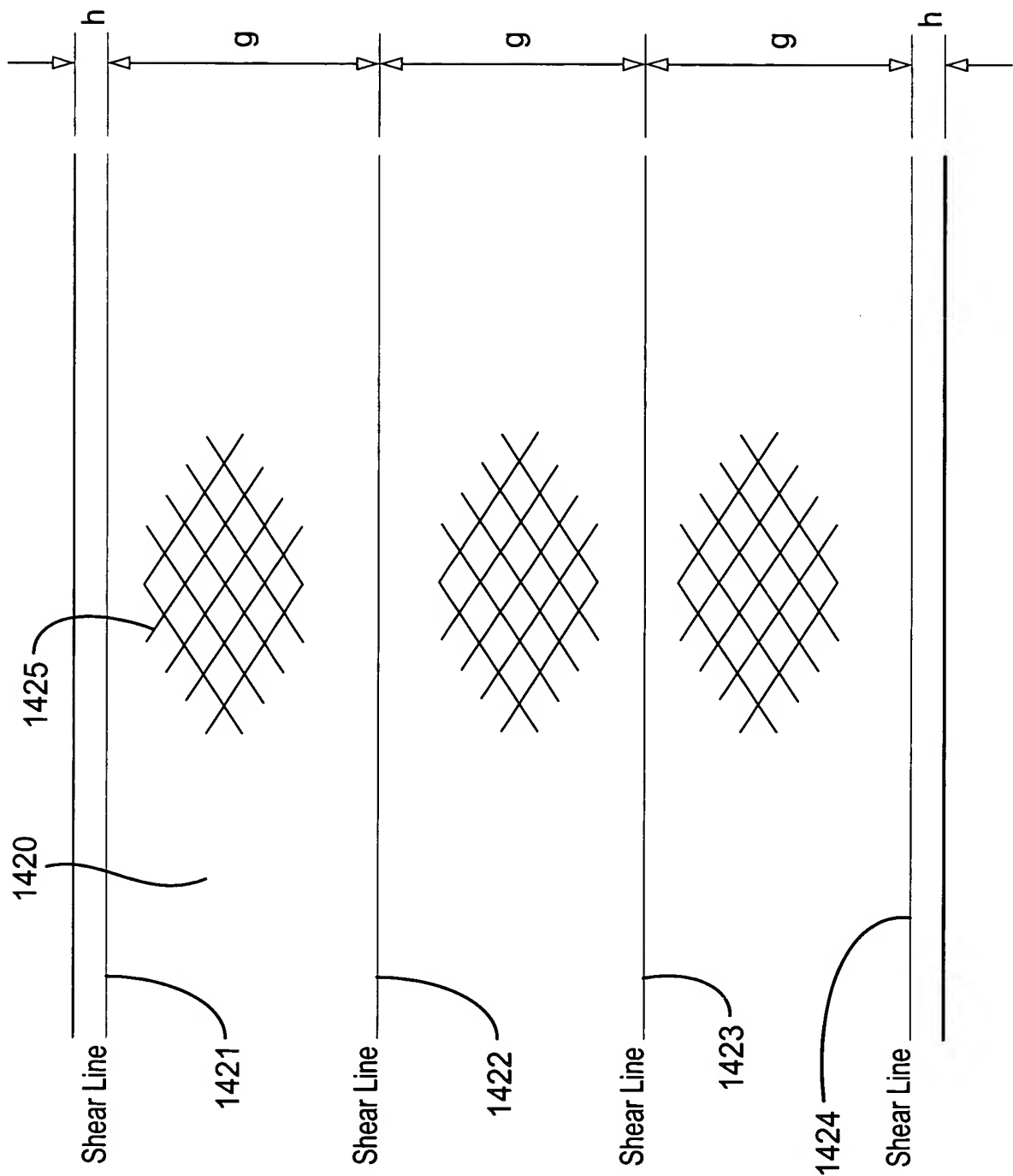


Fig. 19B

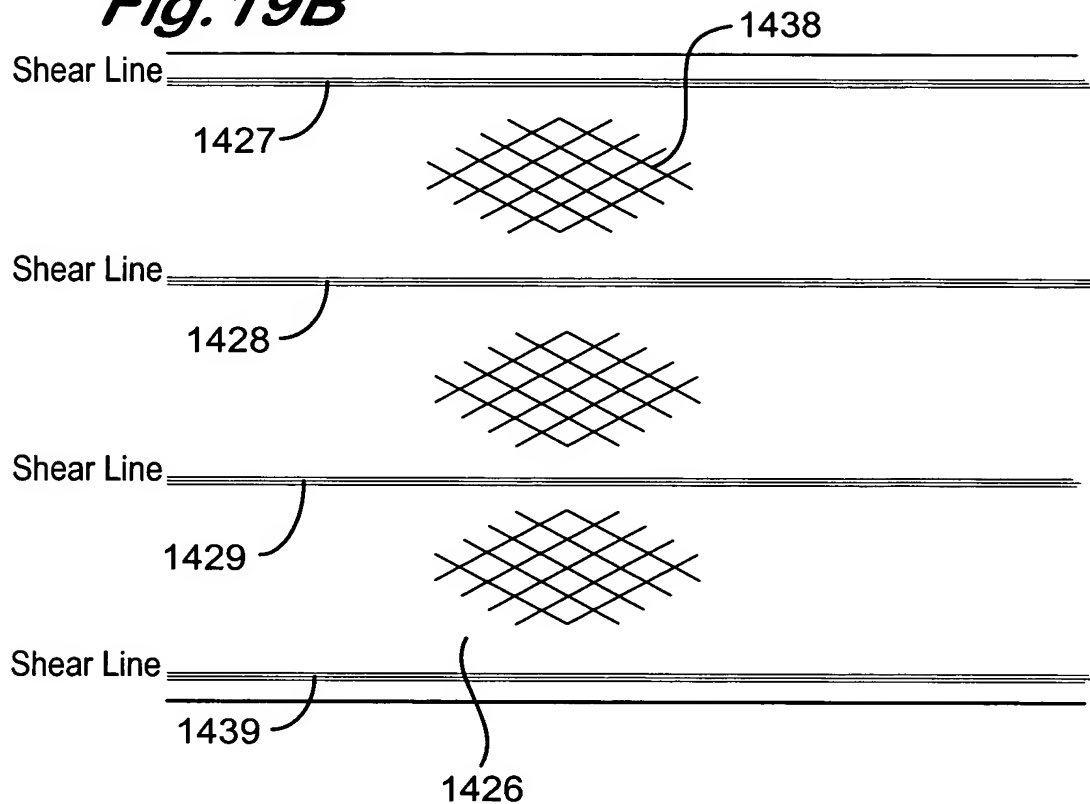
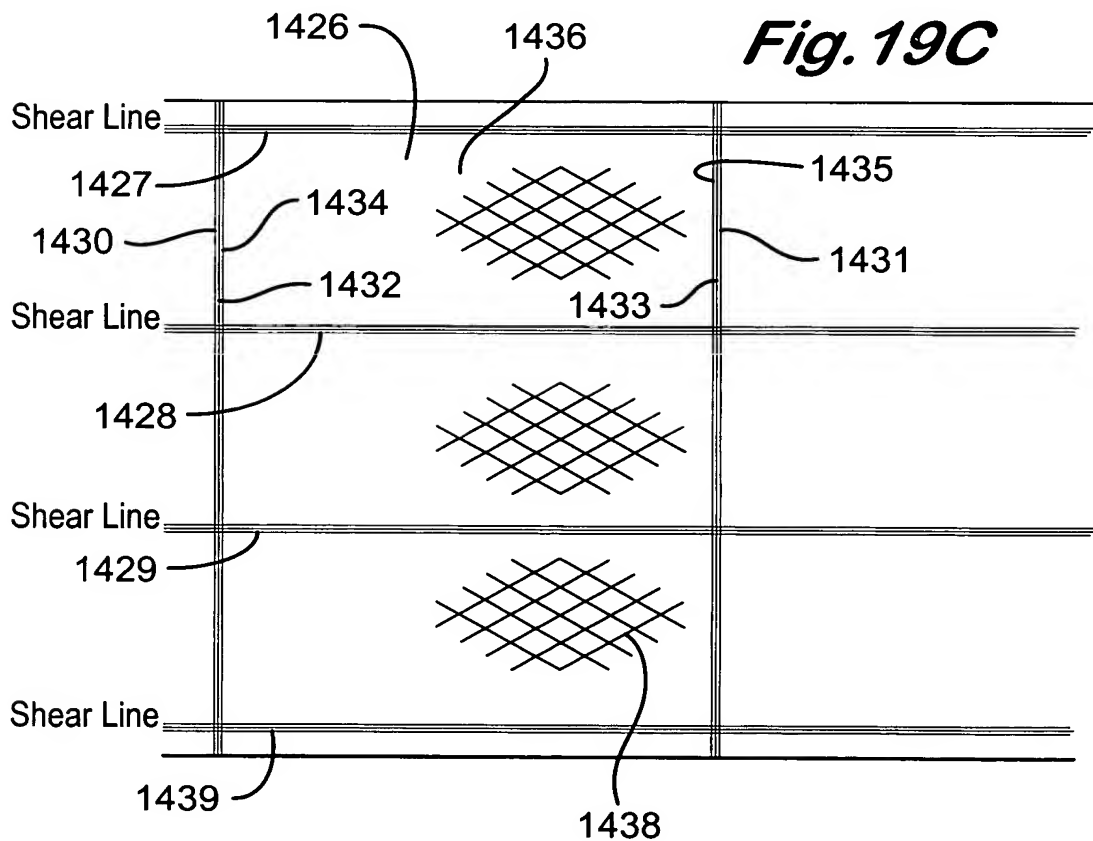
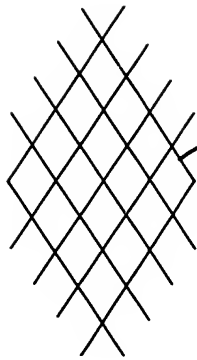
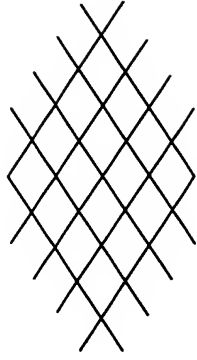


Fig. 19C





Shear Line

Shear Line

1440

1446

Shear Line

1443

Y

1444

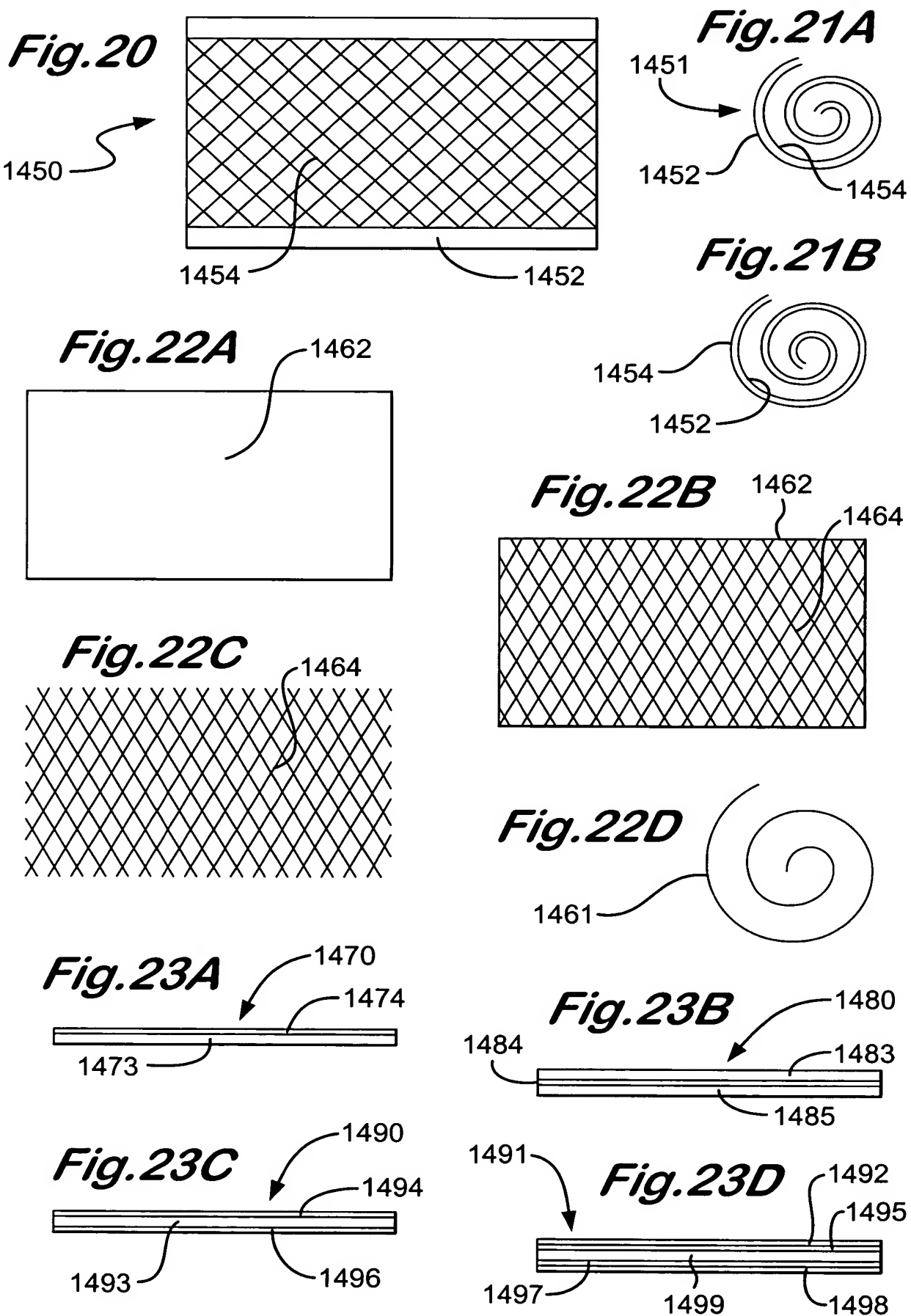
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1445

i

1442

1447



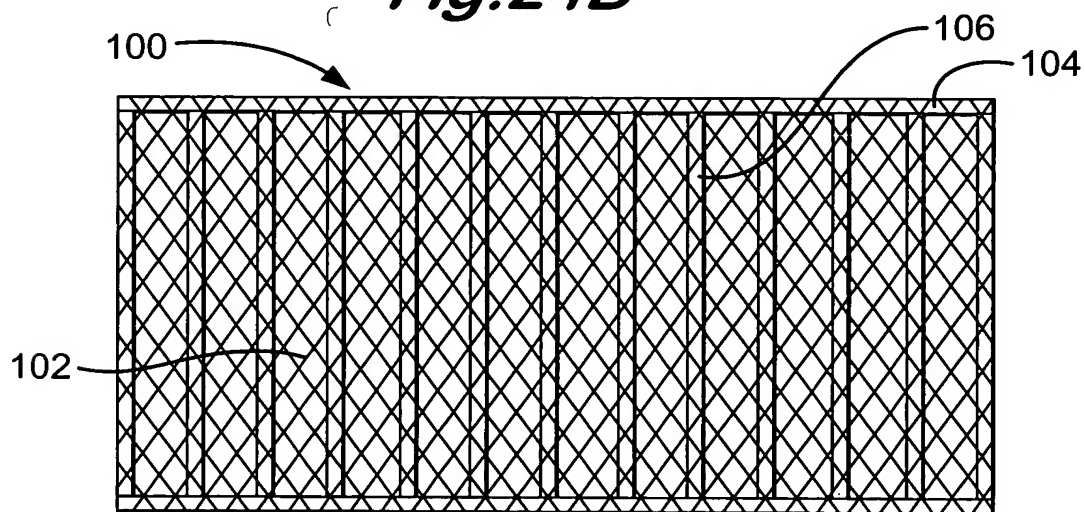
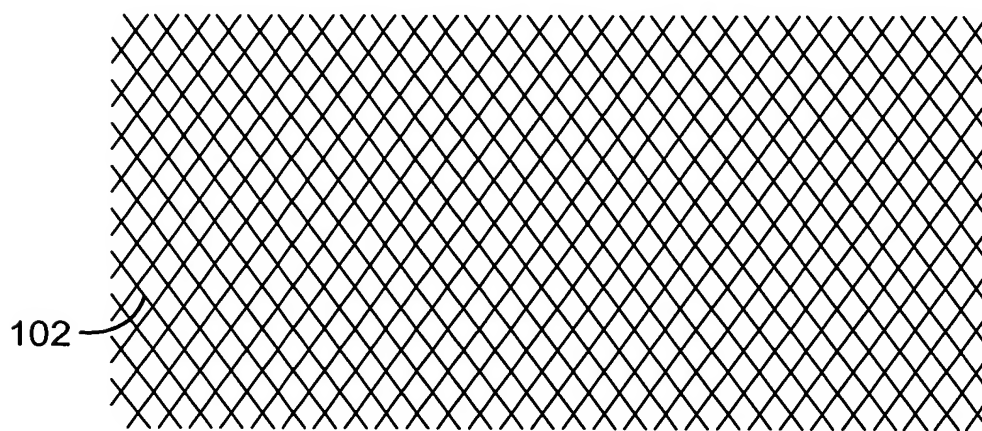
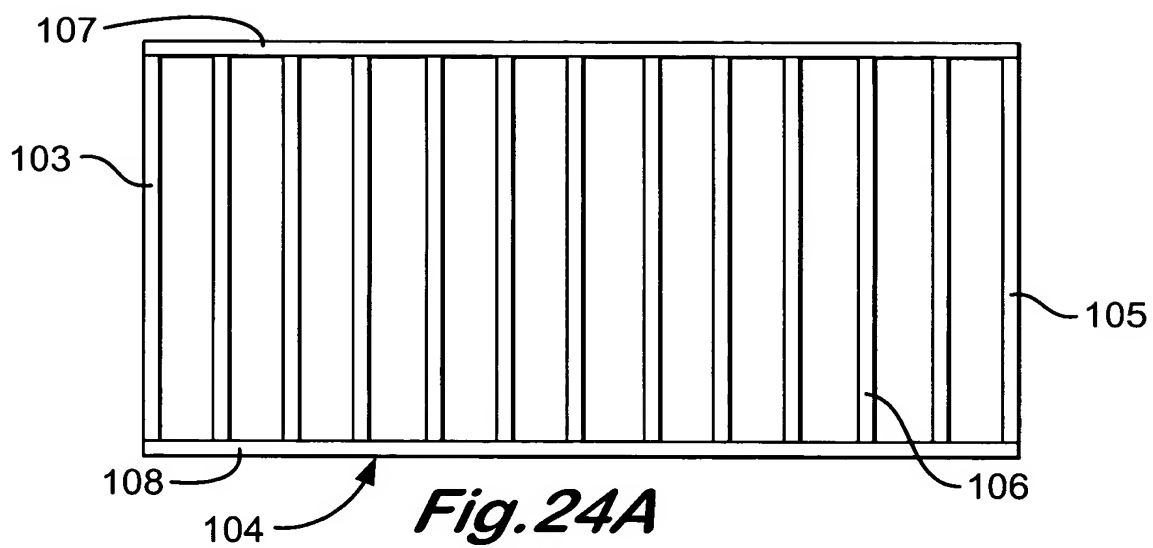
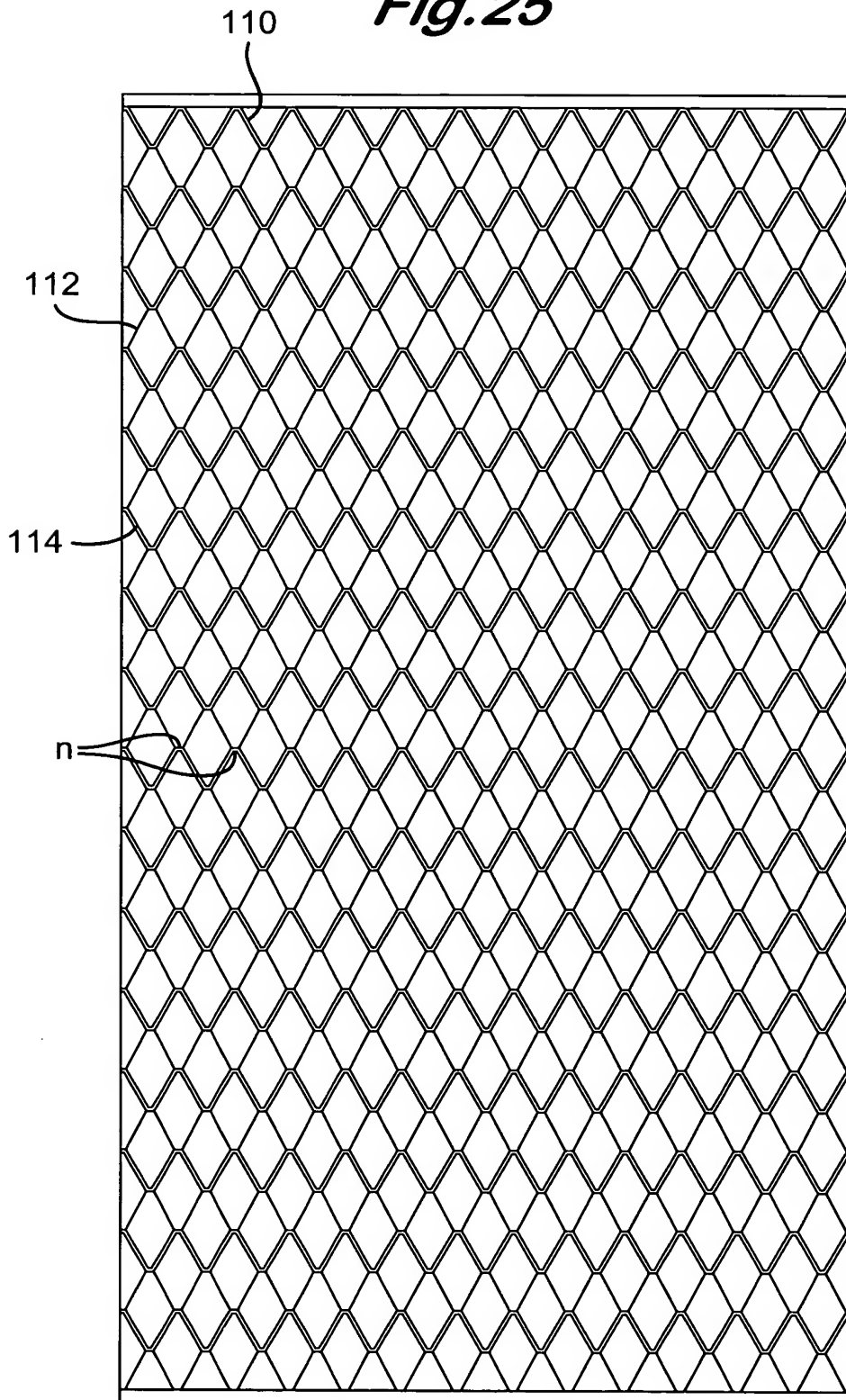
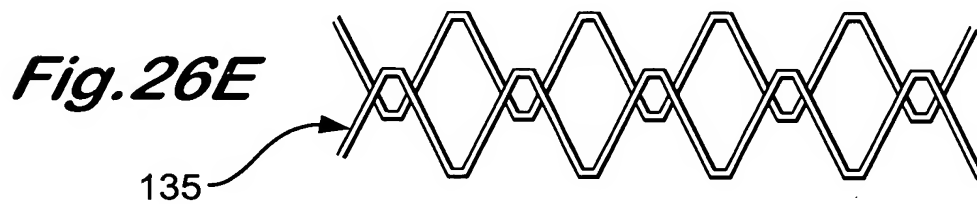
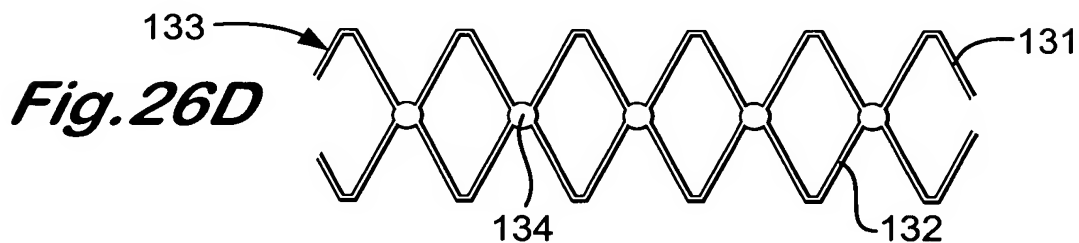
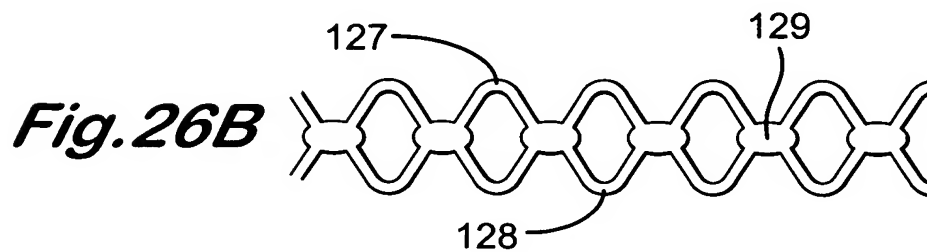
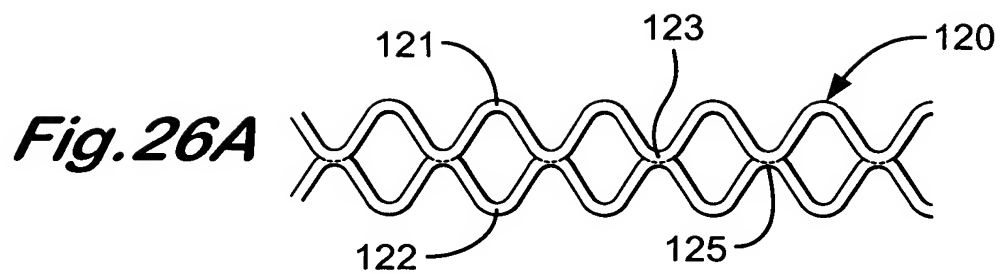


Fig. 25





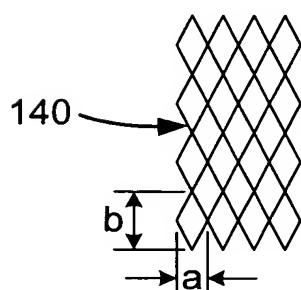
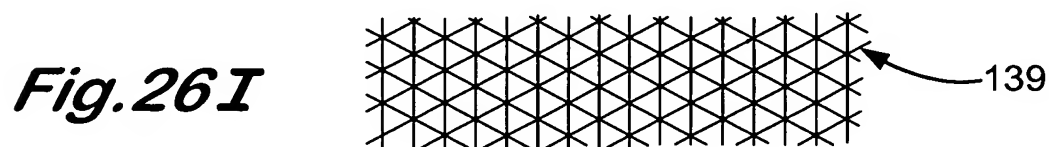
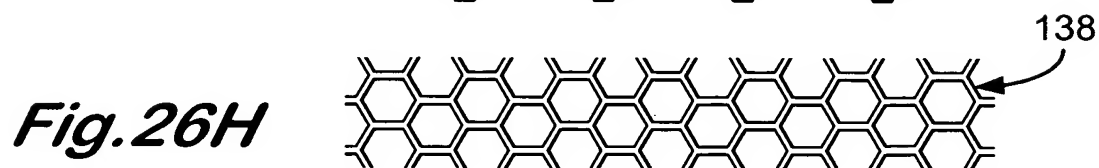


Fig. 27A

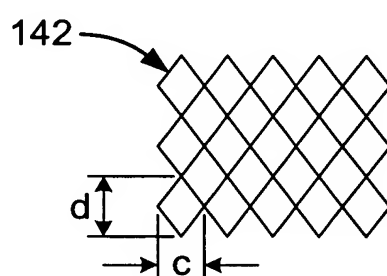


Fig. 27B

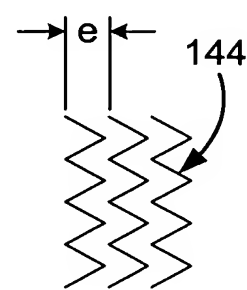


Fig. 27C

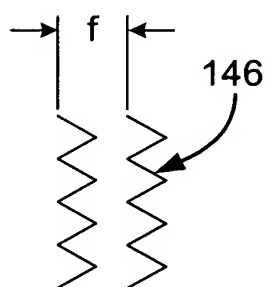


Fig. 27D

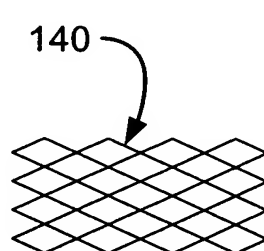


Fig. 28A

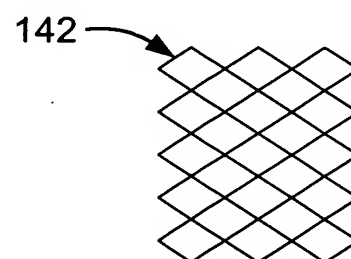


Fig. 28B



Fig. 28C



Fig. 28D

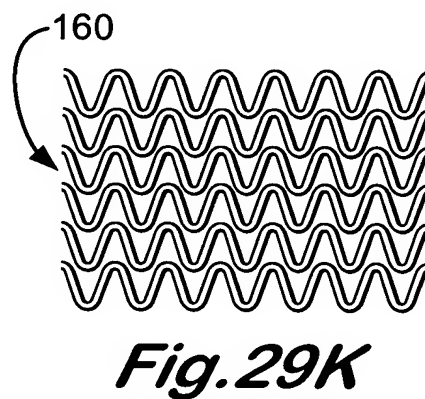
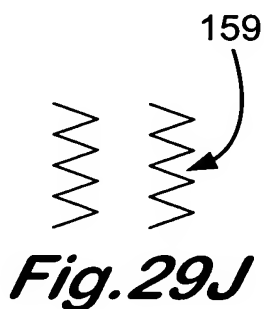
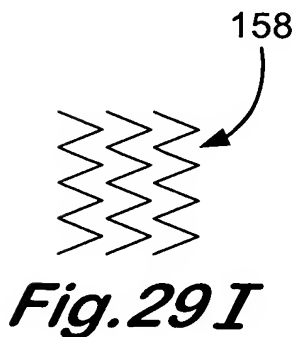
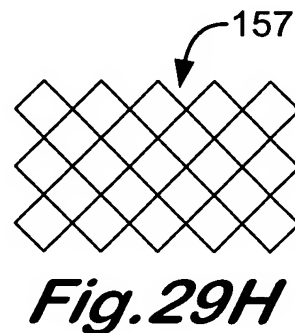
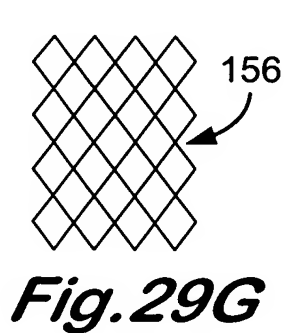
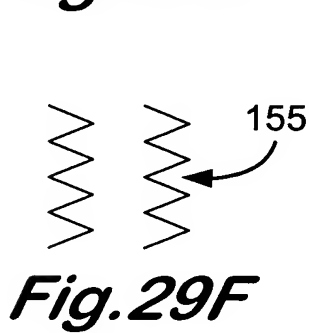
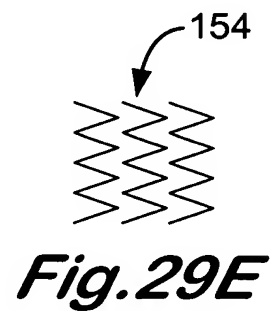
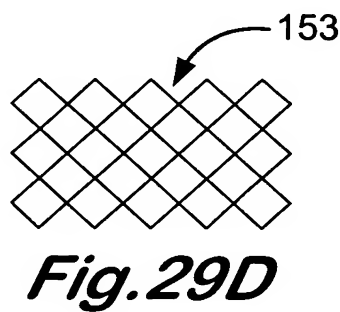
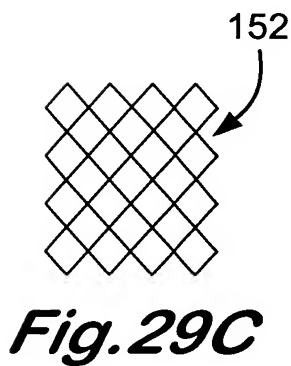
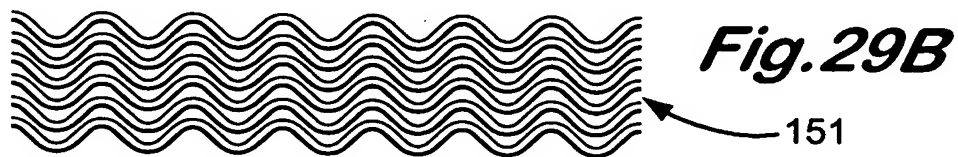
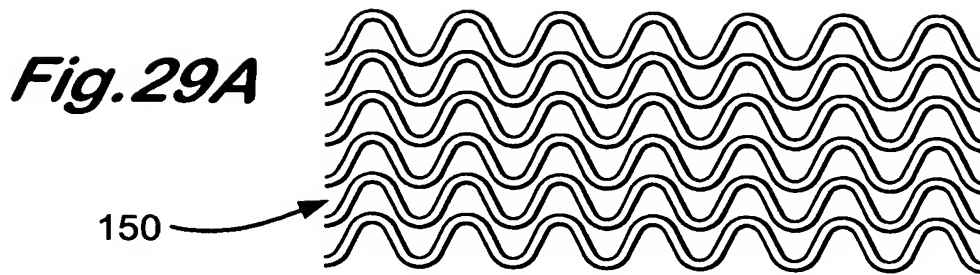


Fig. 30A

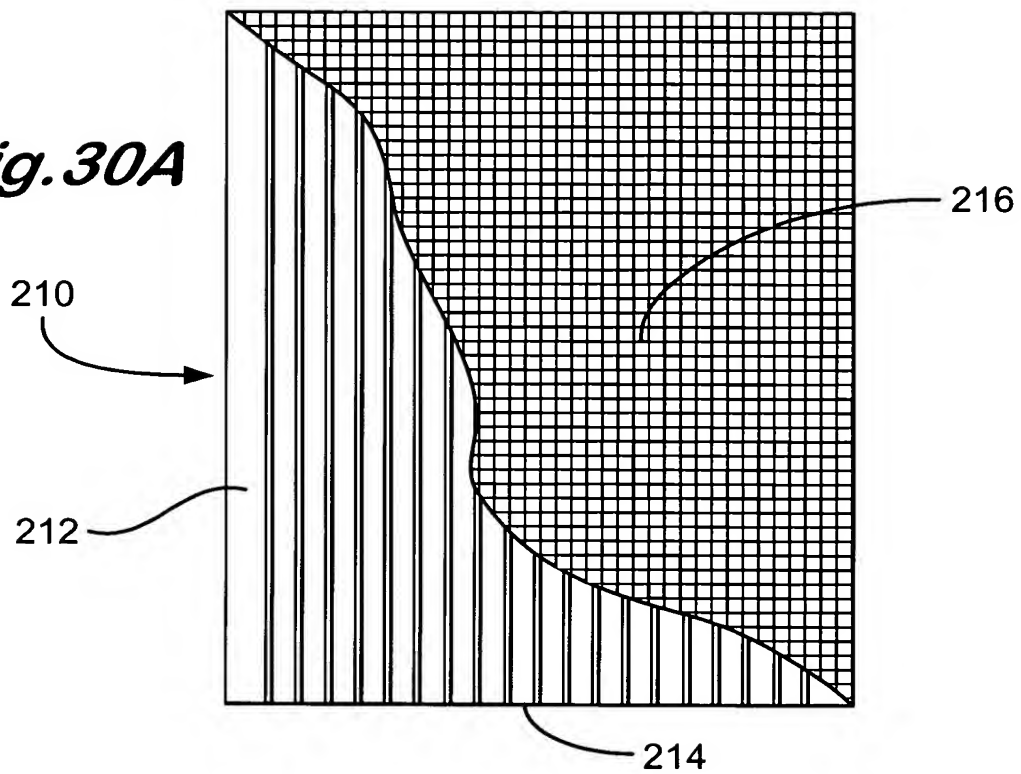


Fig. 30B

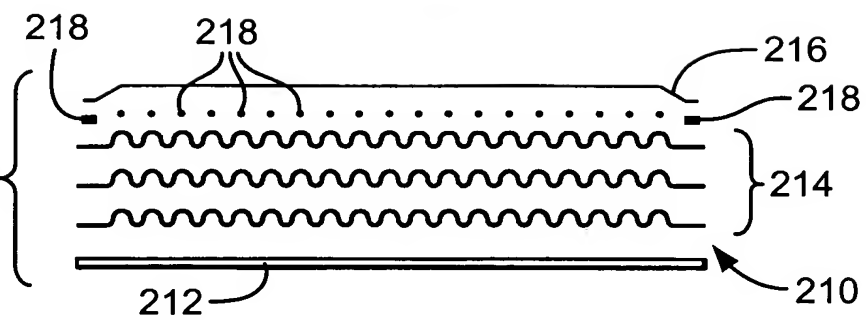


Fig. 31

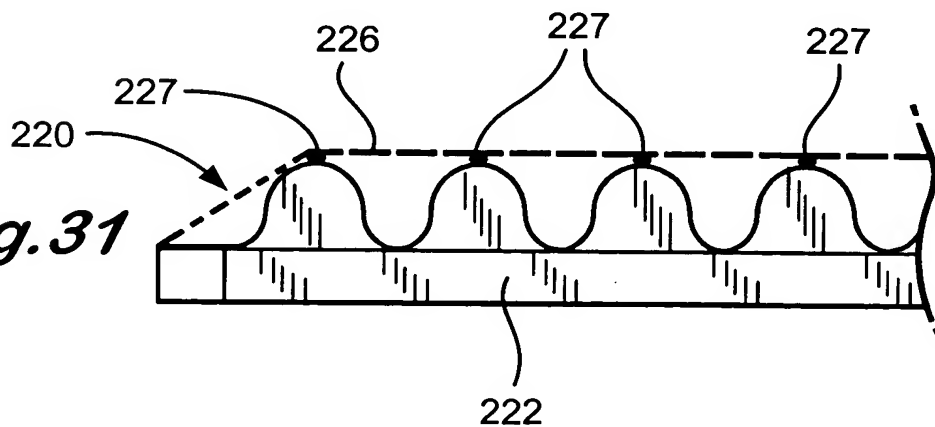


Fig. 32

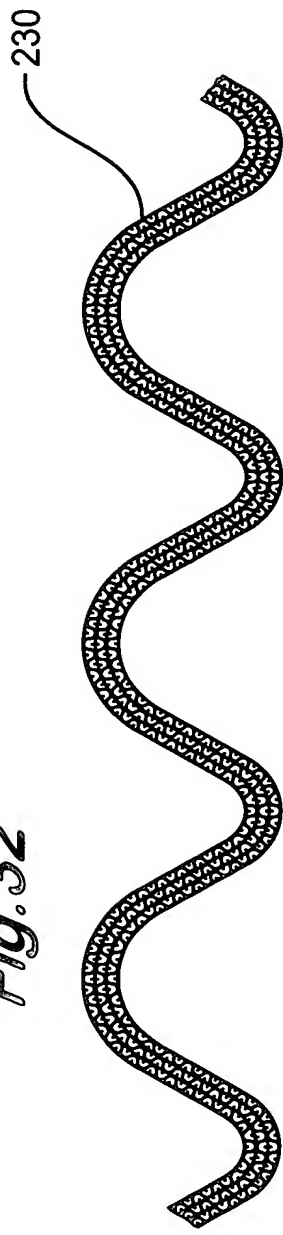


Fig. 33

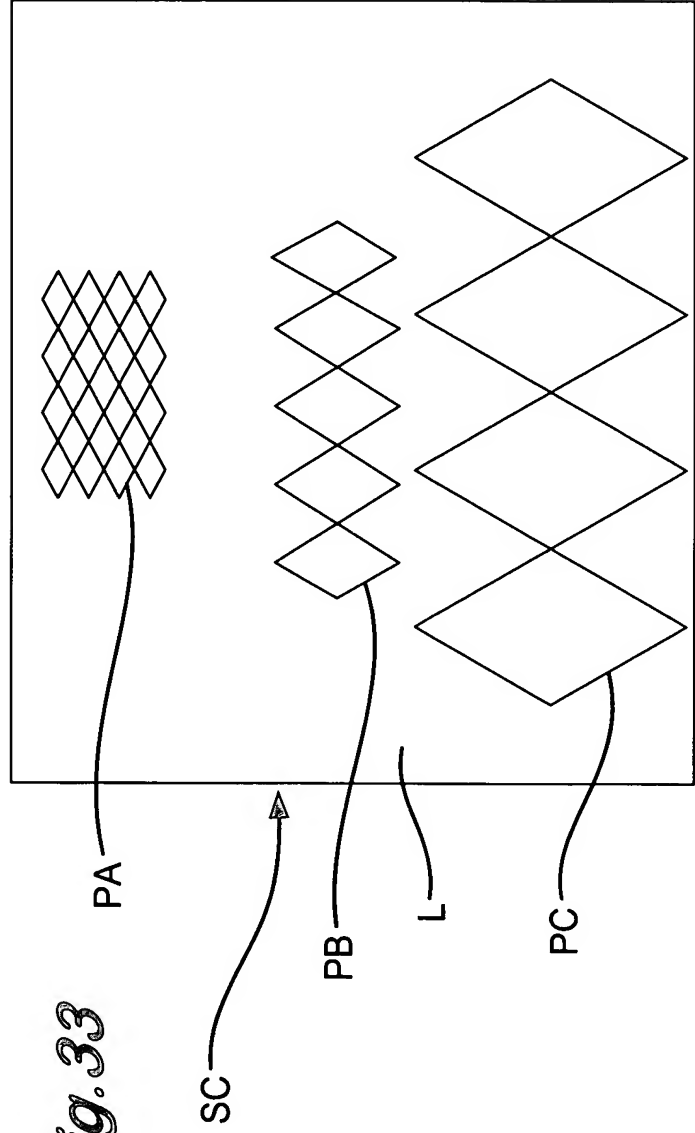


Fig.34A

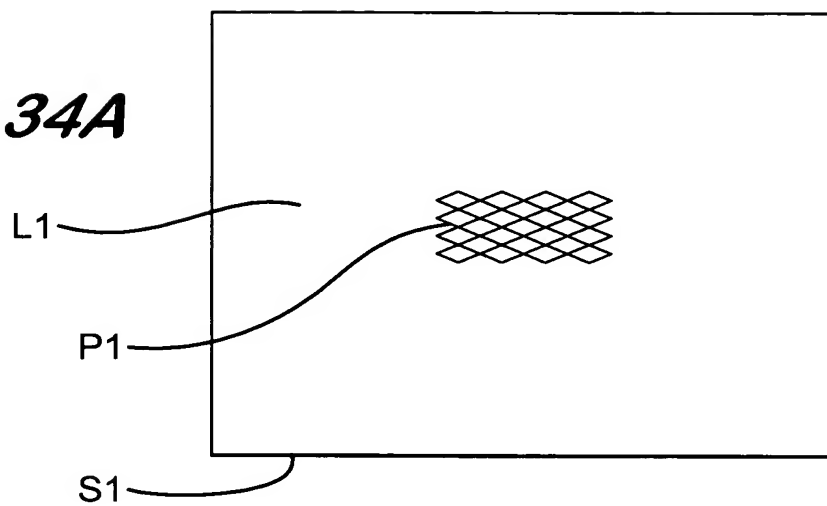


Fig.34B

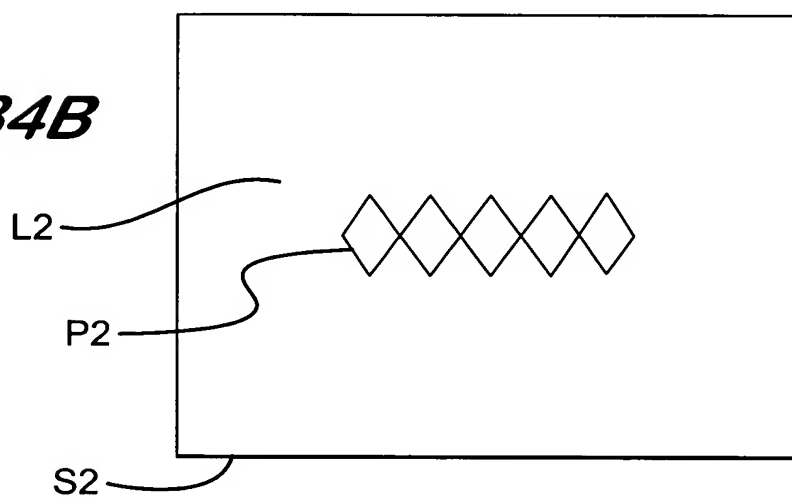
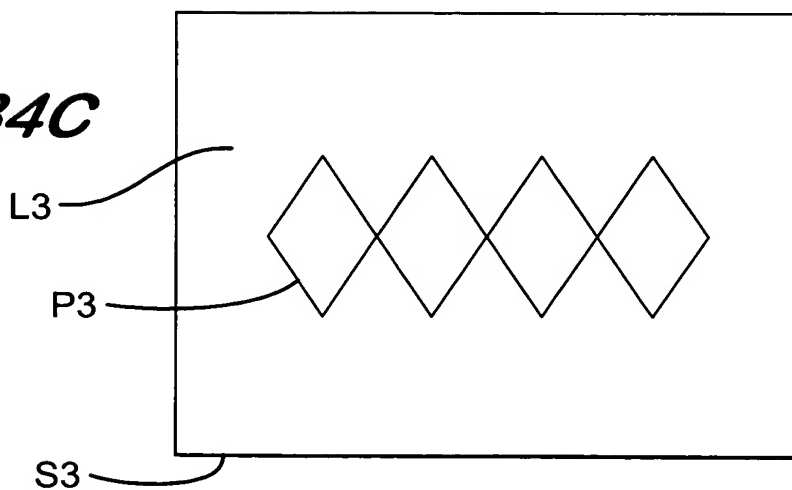


Fig.34C



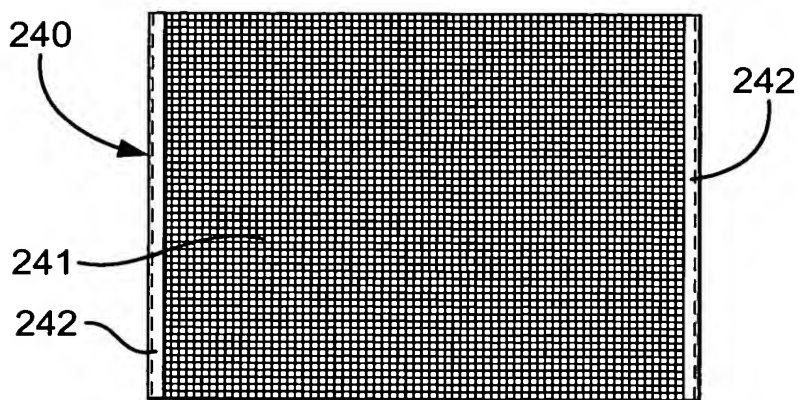


Fig. 35A

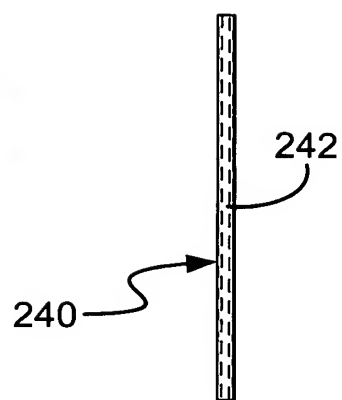


Fig. 35B

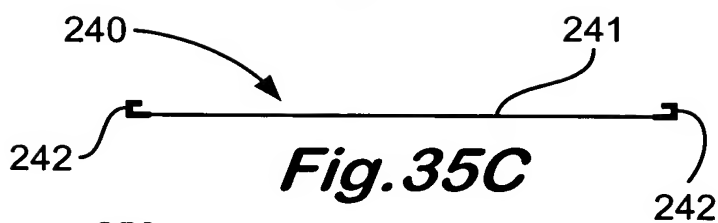


Fig. 35C



Fig. 35D

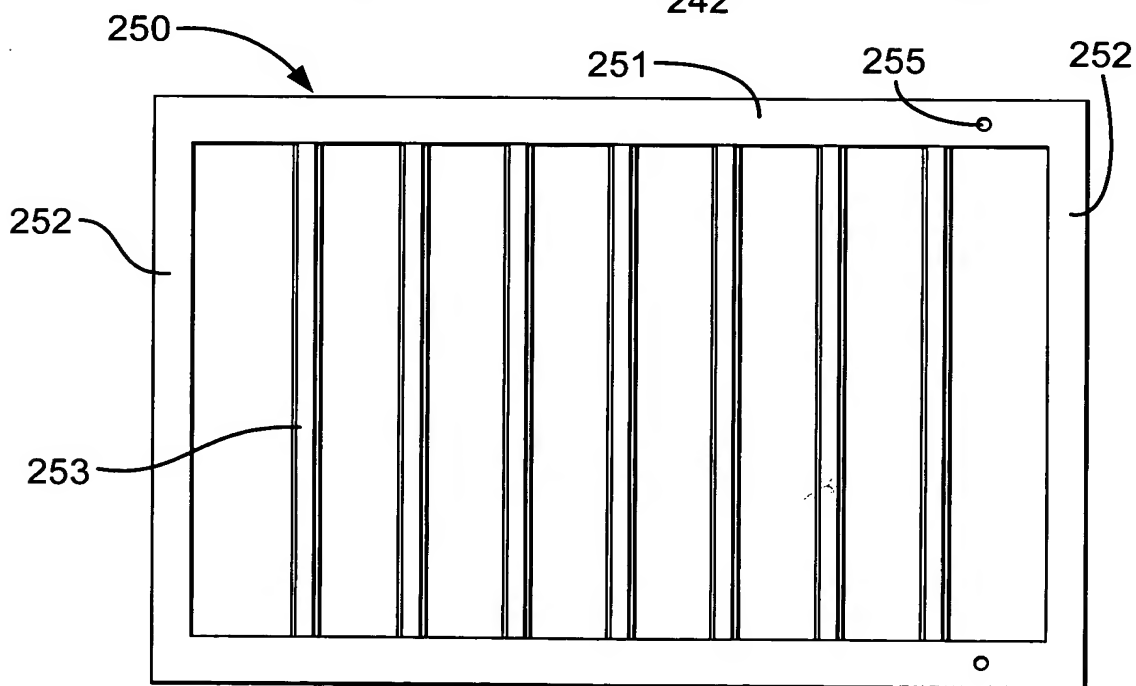


Fig. 36A

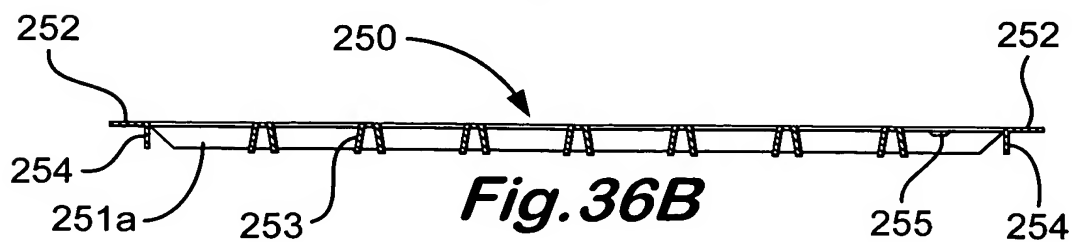


Fig. 36B

Fig. 37A

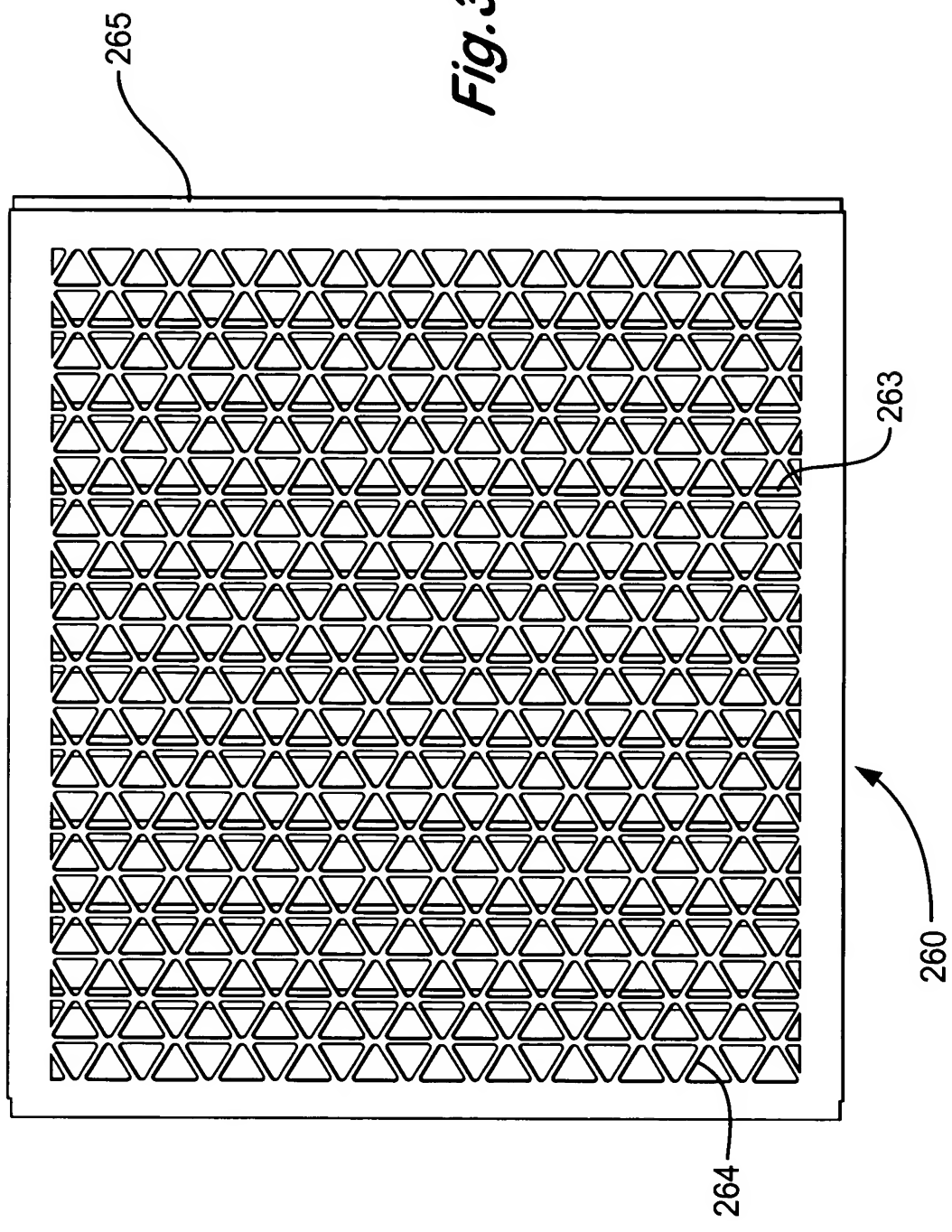


Fig. 37B

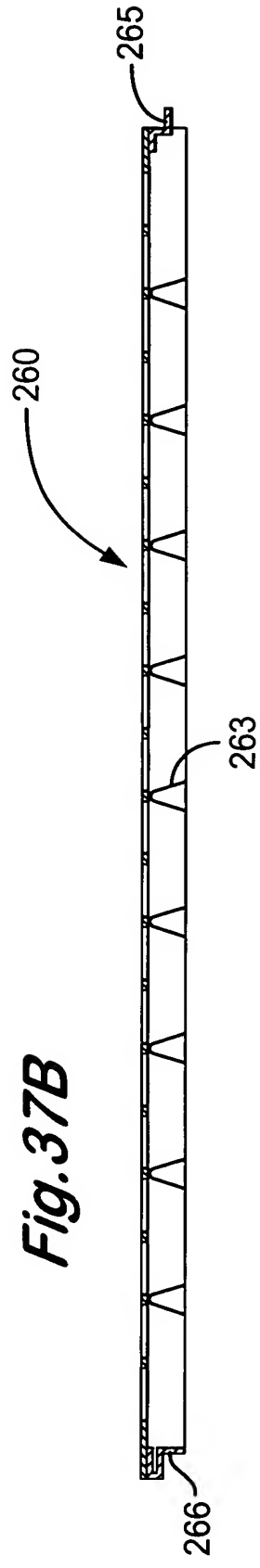


Fig. 37C

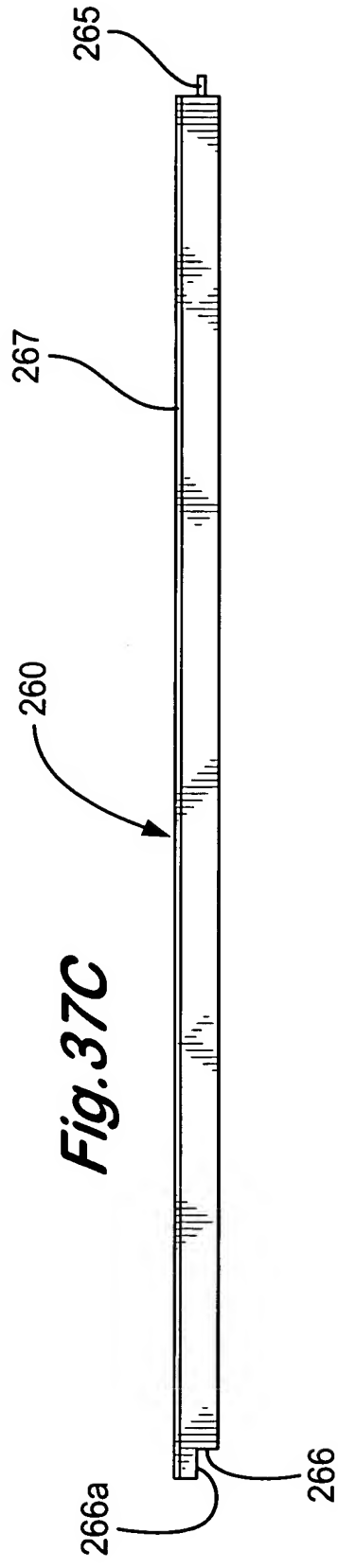
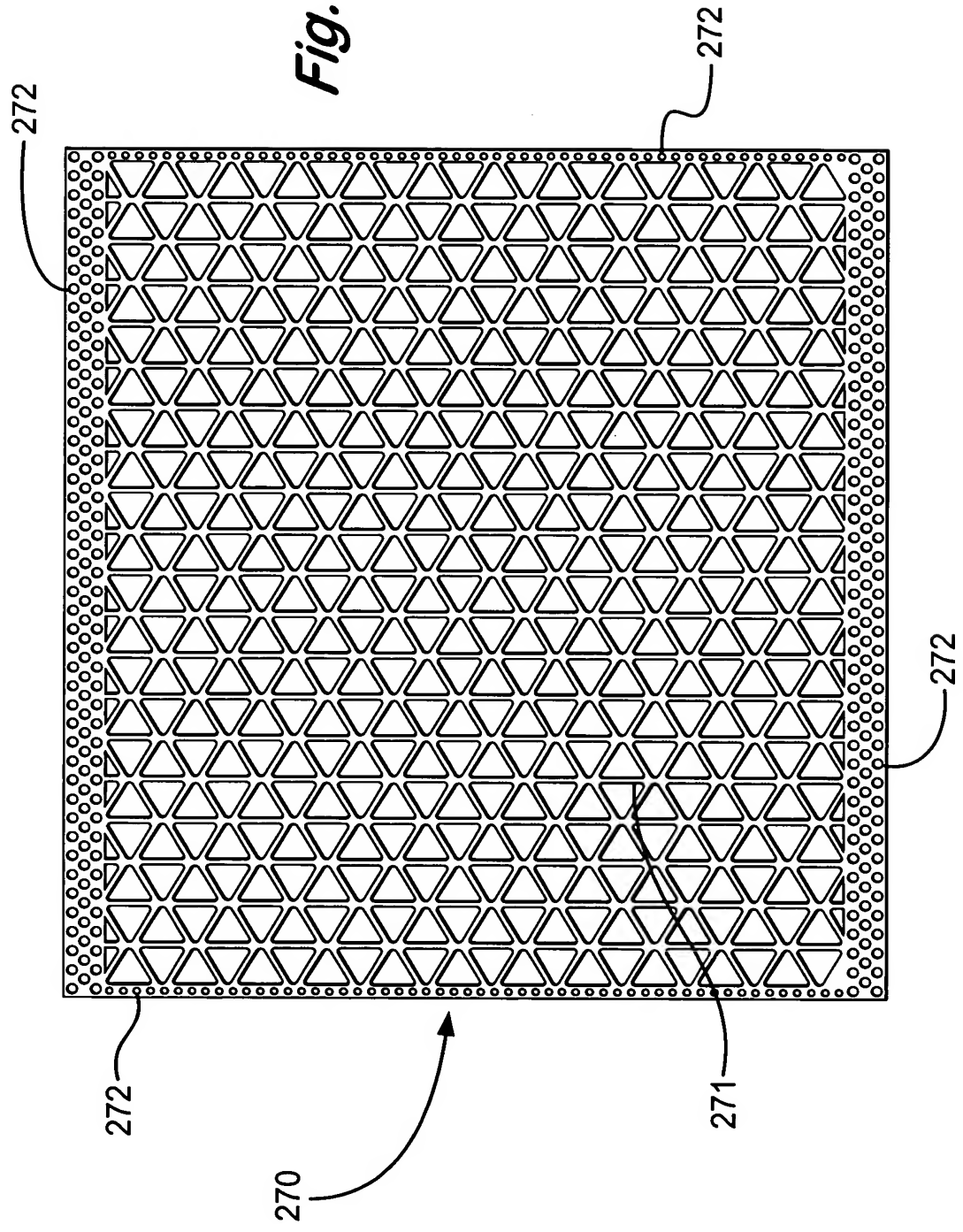


Fig. 38



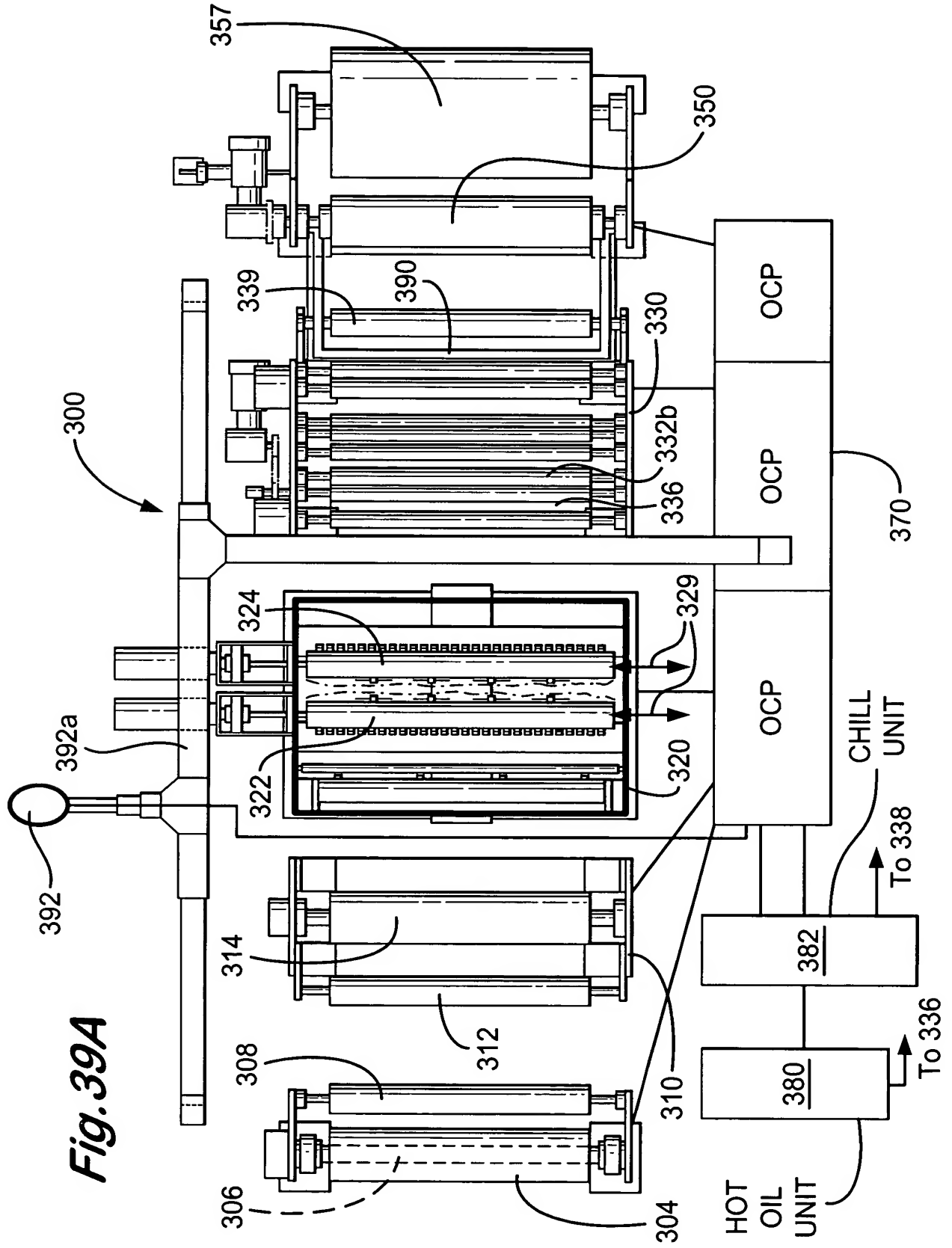


Fig. 39A

Fig. 39B1

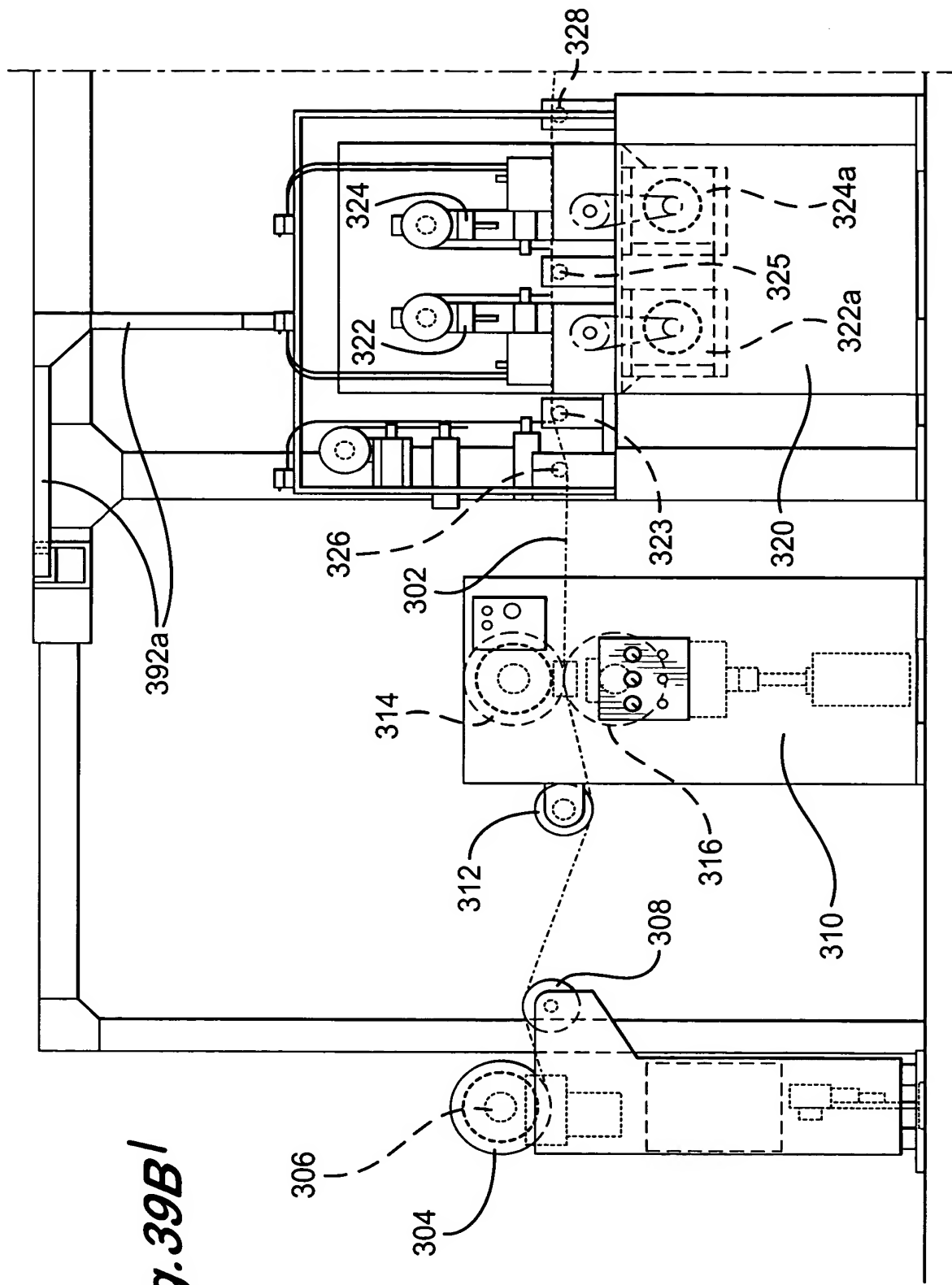
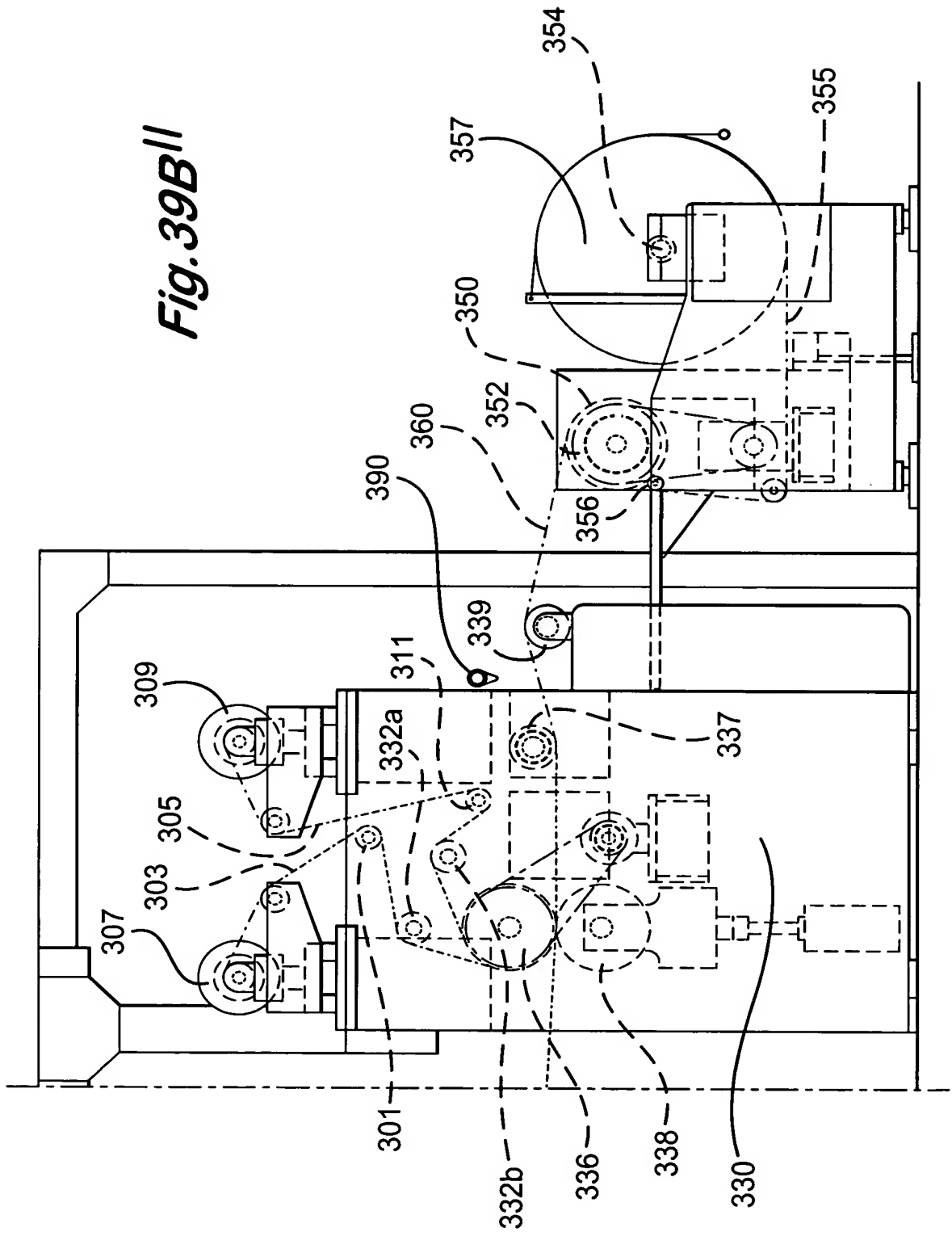


Fig. 39B



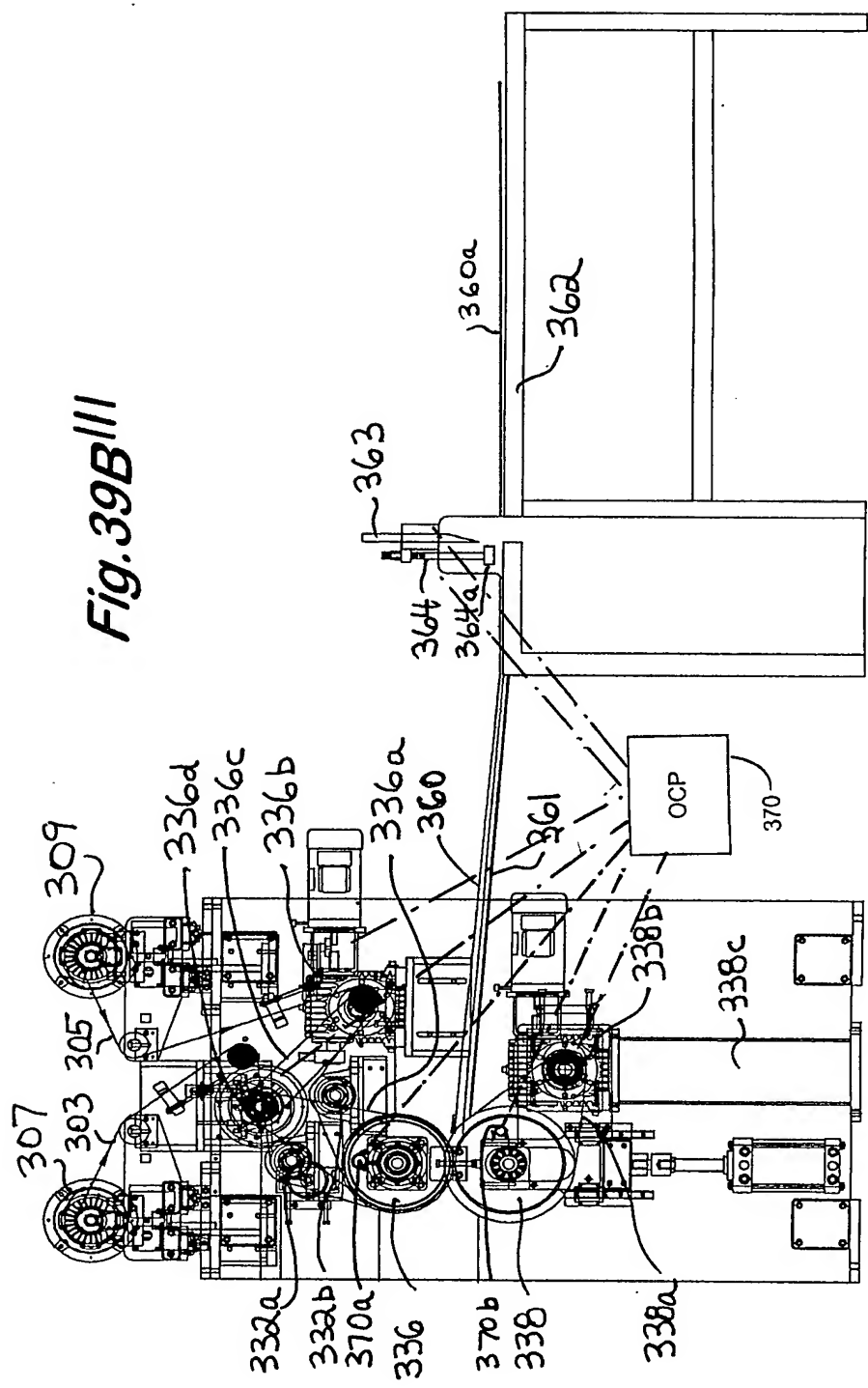
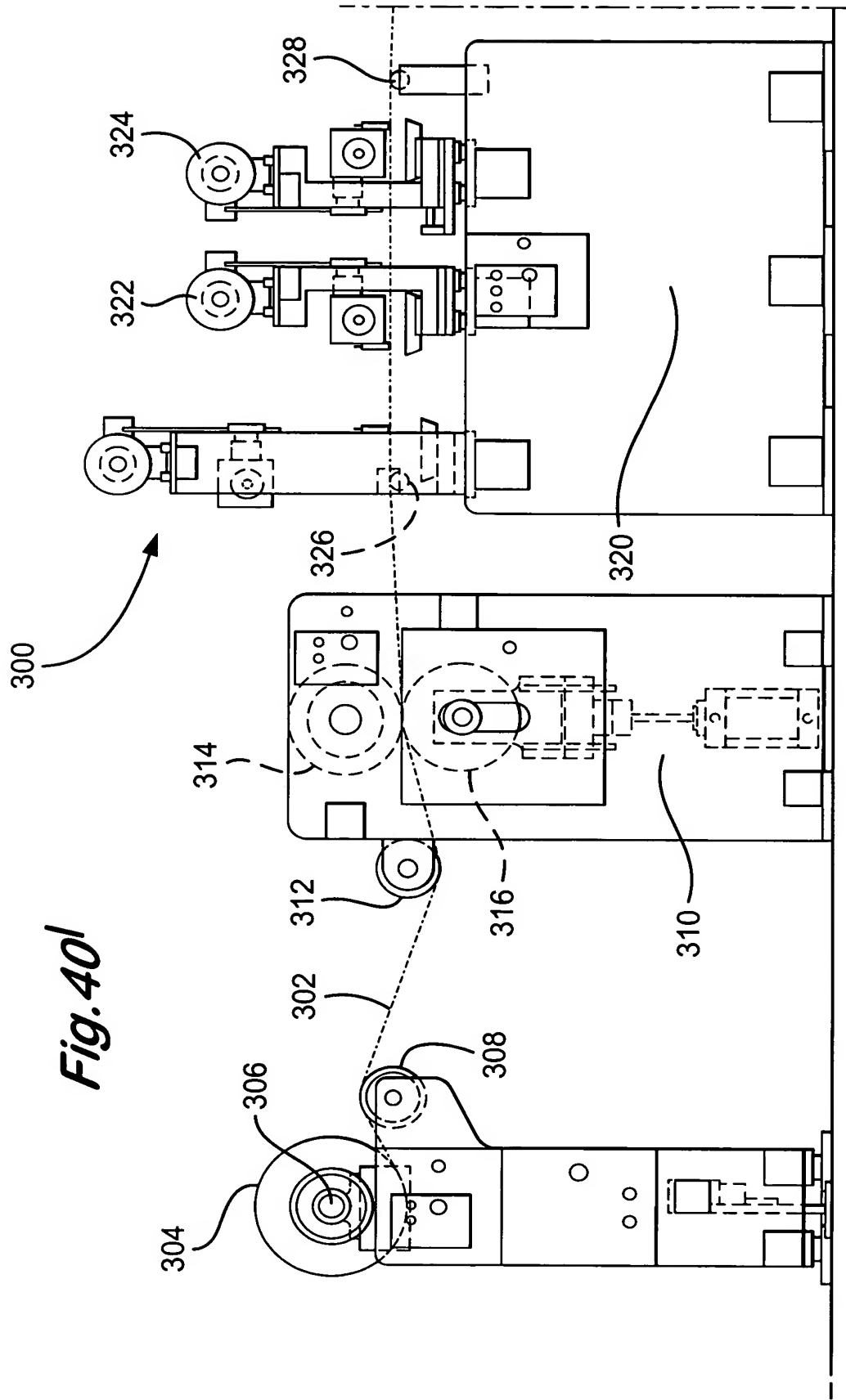
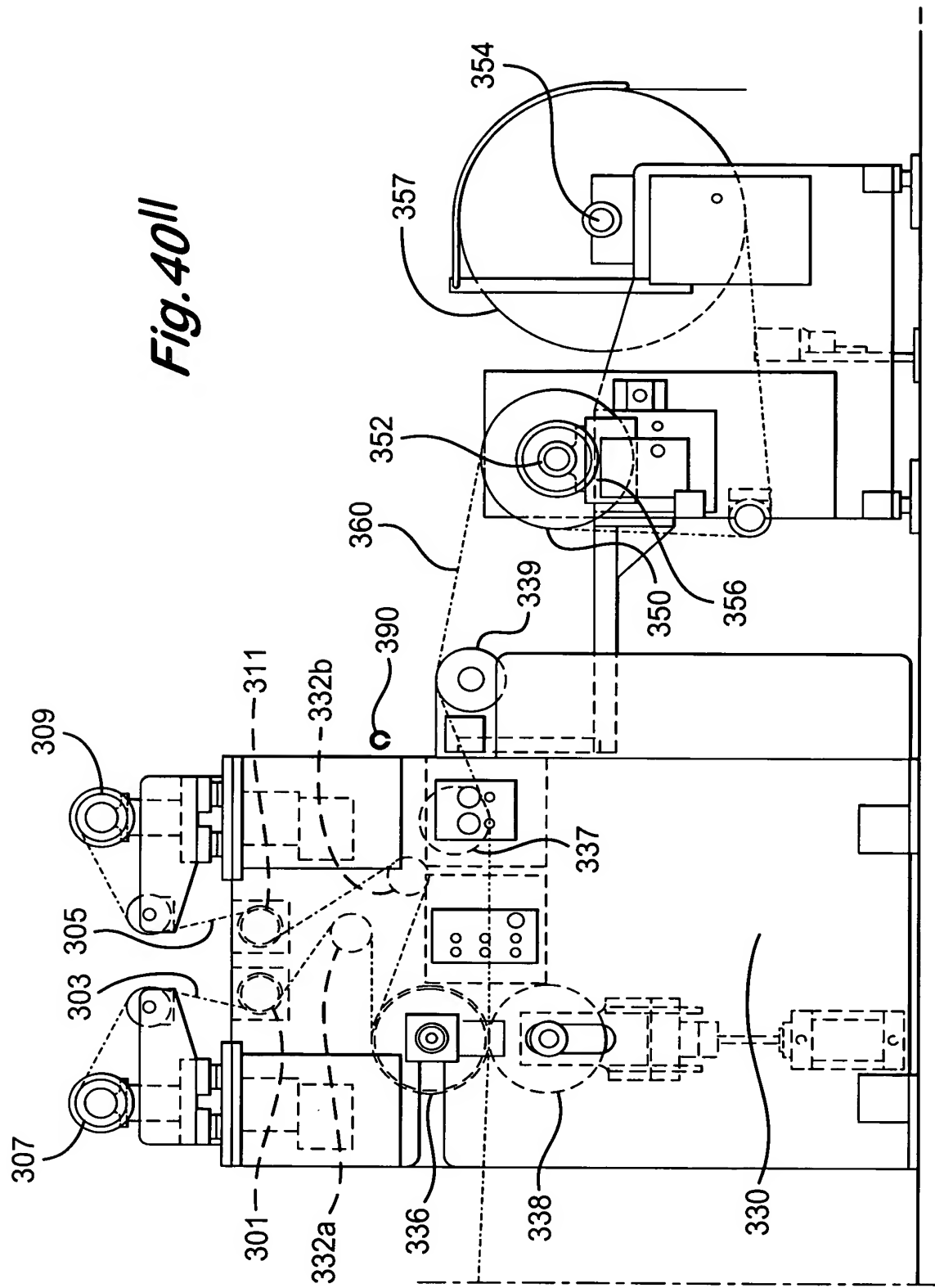


Fig. 39B III

Fig. 40l





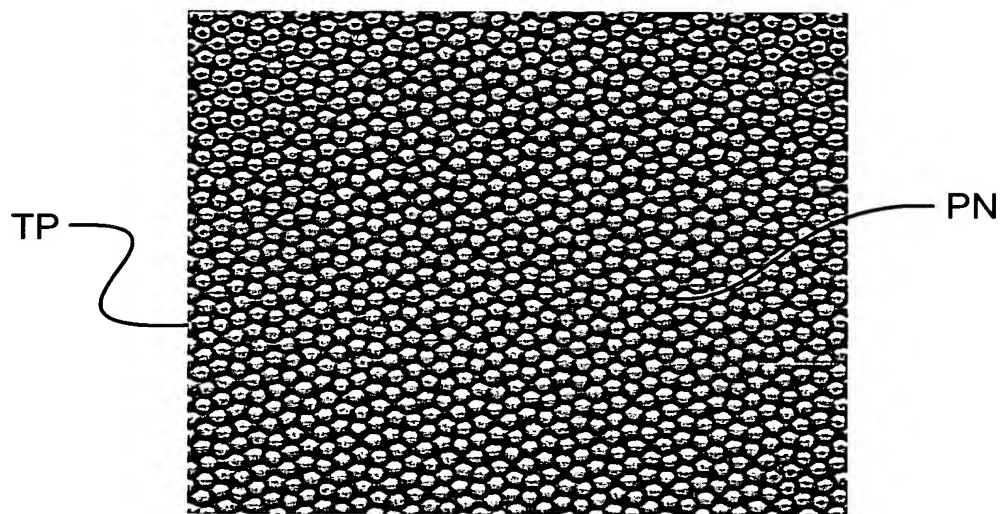


Fig. 41

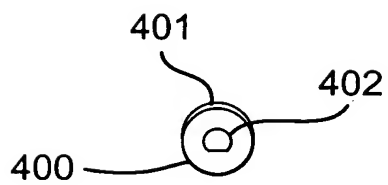


Fig. 42A

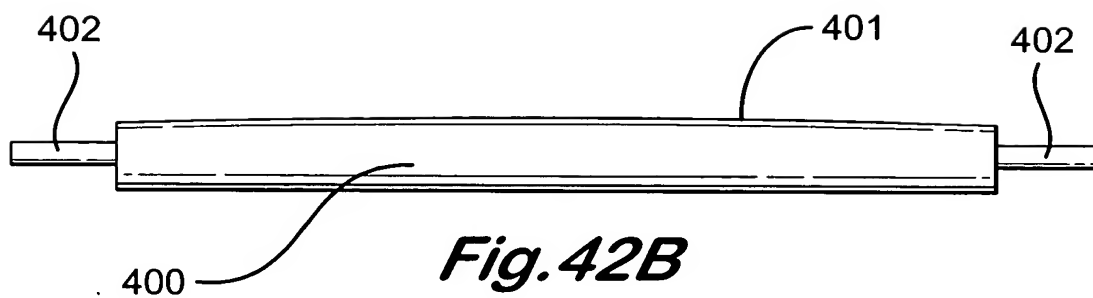


Fig. 42B

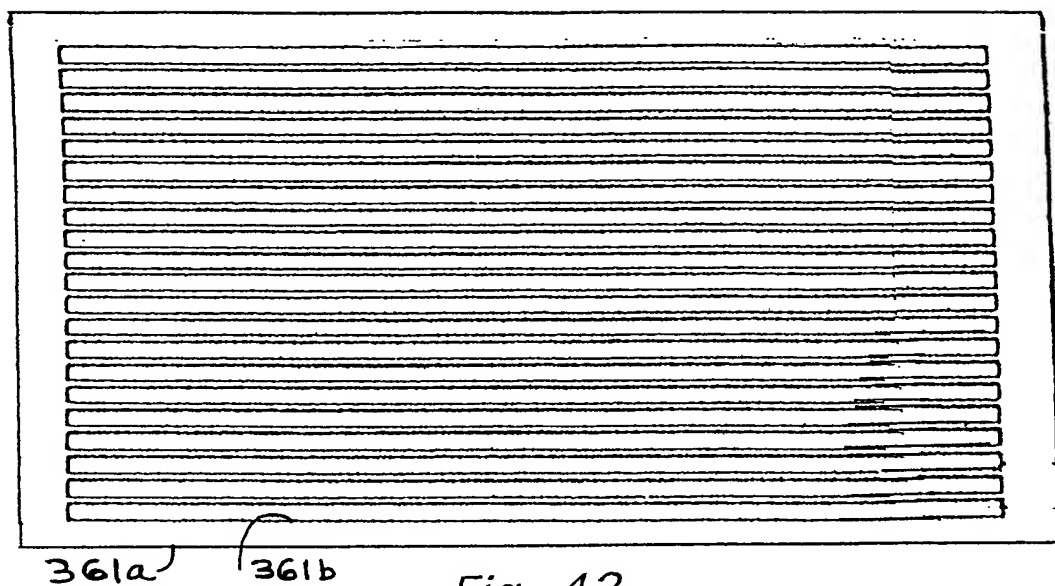


Fig. 43

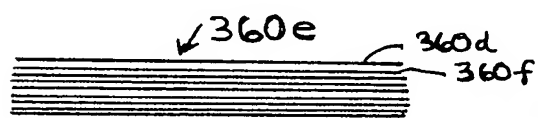


Fig. 44

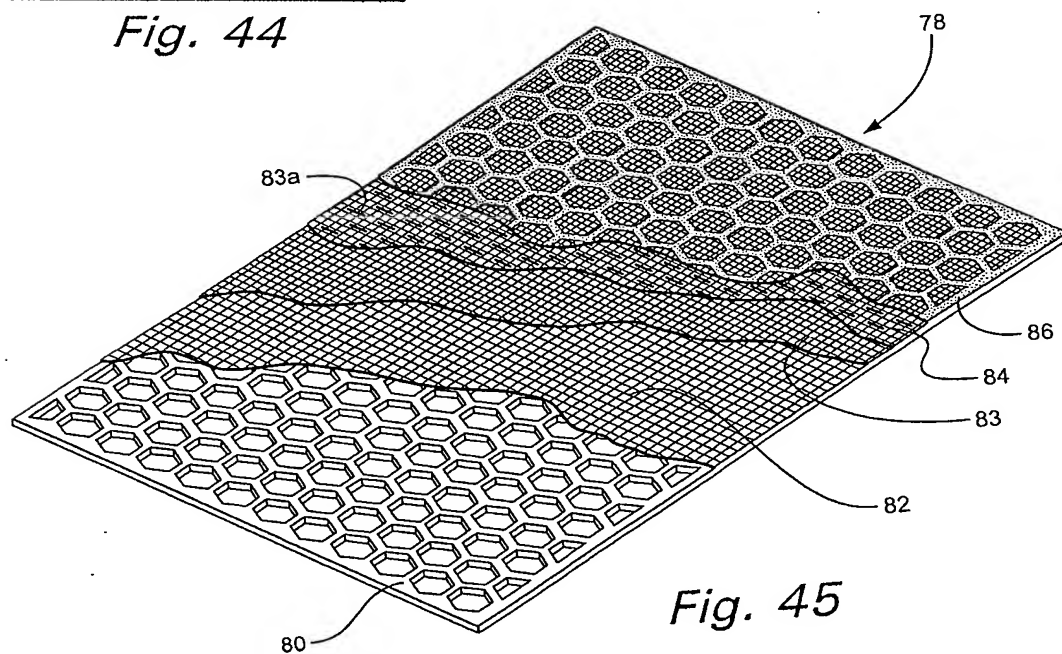


Fig. 45

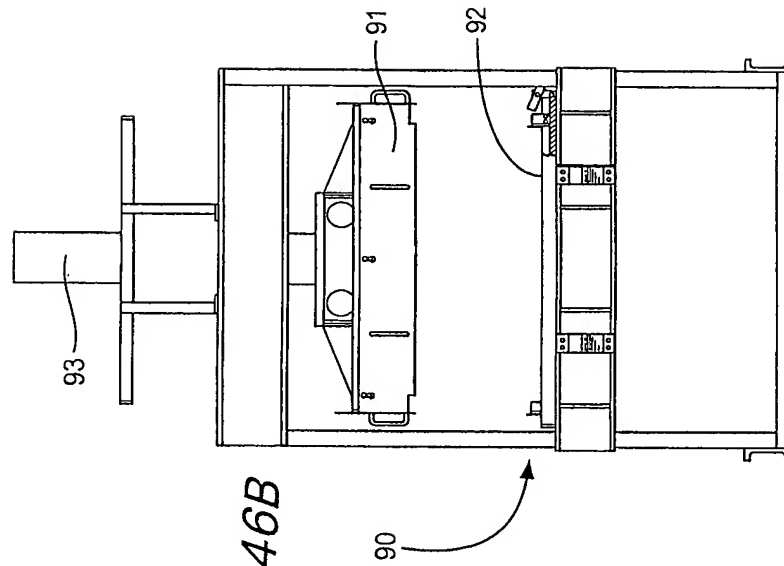
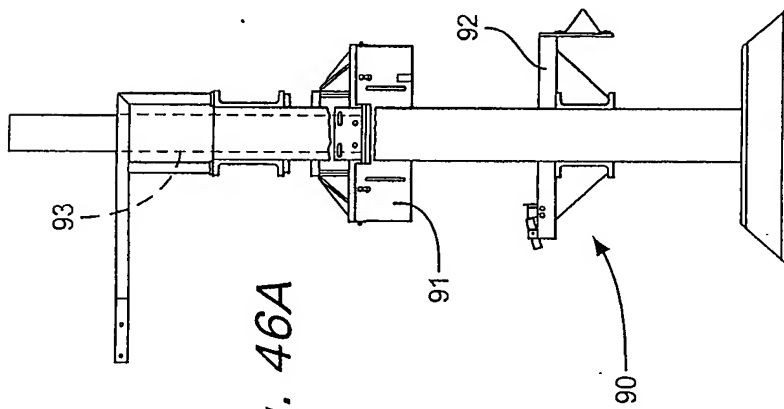


Fig. 47A

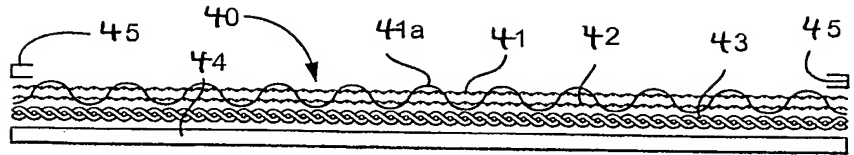


Fig. 47B

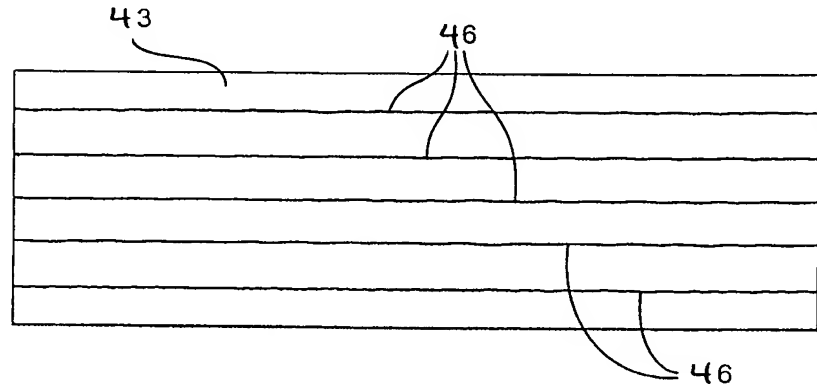


Fig. 47C

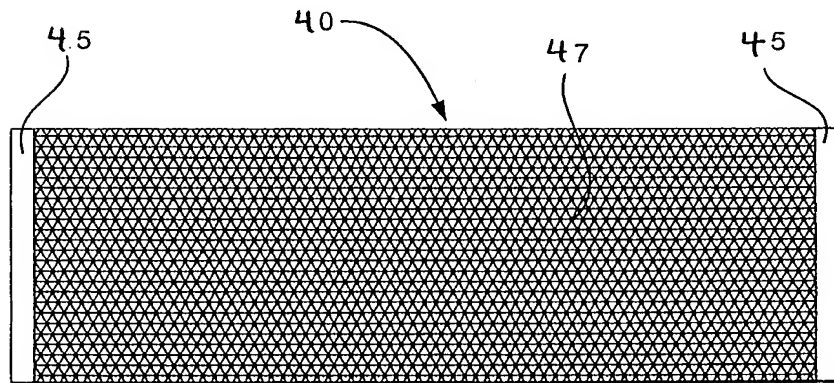


Fig. 48

